

IMPORTANT BIRD AND BIODIVERSITY AREAS IN INDIA

Priority sites for Conservation

Revised and updated 2nd Edition Vol. I



IMPORTANT BIRD AND BIODIVERSITY AREAS IN INDIA

Priority sites for conservation

**Second Edition: Revised and Updated
Volume I**

Asad R. Rahmani, M. Zafar-ul Islam and Raju M. Kasambe

Maps prepared by

Mohit Kalra and Noor I. Khan

Team Members

Noor I. Khan, Siddesh Surve, Abhijit Malekar and Nandkishor Dudhe

Significant Contribution to this edition

**Anwaruddin Choudhury, Arvind Mishra, Ajai Saxena, Dhananjai Mohan, Himmat Singh
Pawar, Intesar Suhail, Khursheed Ahmad, Neeraj Srivastava, P.O. Nameer, Manoj Nair,
Mrutyumjaya Rao, Praveen, J., Sanjeeva Pandey, S. Subramanya, Satya Prakash**

Editors

Gayatri Ugra and Maithreyi, M.R.

Layout and Design

V. Gopi Naidu

With major sponsorship from
Pavillion Foundation, Singapore

Recommended citation:

Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii

© 2016 Authors.

Bombay Natural History Society,

Hornbill House, Shaheed Bhagat Singh Road, Mumbai-400001, INDIA.

Telephone: 0091-22-28429477 and 0091-22-22821811. Fax: 0091-22-22837615.

Email: info@bnhs.org; websites: www.bnhs.org and www.ibcn.in

Bombay Natural History Society in India is registered under Bombay Public Trust Act 1950: F244 (Bom) dated 06th July 1953.

ISBN: 978-93-84678-02-9

Cover Photographs: Design and collage by Gopi Naidu conceptualized by IBA Team.

First published: 2004 by IBCN: Bombay Natural History Society.

Second Revised Edition: 2016.

Printed by Akshata Arts Pvt Ltd. 22, A to Z Industrial Estate, G. Kadam Marg, Lower Parel, Mumbai 400 013. Published by the Bombay Natural History Society, Hornbill House, Shaheed Bhagat Singh Road, Mumbai 400 001.

Designed: V. Gopi Naidu.

Available from IBCN and BNHS website as given above.

Declaration:

This book is being uploaded on the IBCN website and the text can be used for educational purposes. The copyright of the photographs used in the book remains with the photographers as mentioned near each photograph and should not be used without their prior permission and consent.

Donations to BNHS are exempt under 80G and 35(1)(ii) of Income Tax Act, 1961.

The presentation of material in this book and geographical designations employed do not imply the expression of any opinion whatsoever on the part of IBCN and BNHS concerning the legal status of any state / country, territory or area, or concerning the delimitation of its frontiers or boundaries.

ARUNACHAL PRADESH

IN-AR



DHRTIMAN MUKHERJEE

A view of Great Himalayas from Eaglenest Wildlife Sanctuary

The state of Arunachal Pradesh (26° 40'–29° 27' N, 91° 35'–97° 24' E), which is the land of the 'dawn-lit mountains', is a thinly populated, mountainous tract in the easternmost part of India. It is surrounded on three sides by international borders: Bhutan to the west, Tibet to the north and Myanmar to the east. The state of Assam lies to the south. The total geographical area of Arunachal is 8.37 million ha, which is 2.5% of the land area of the country. Being part of the Eastern Himalaya, the state is mostly hilly. The mountains towards the east of the Siang river are known as the Mishmi Hills. Eastern and southeastern areas are dominated by the Dapha Bum and Patkai ranges. Small areas of flat plains occur along the larger rivers such as the Siang, Dibang, and Lohit. The higher areas, especially the peaks of the Great Himalaya, remain snowcapped throughout the year. The highest peak is Kangto at 7090 m (23,260 ft) in the Great Himalaya.

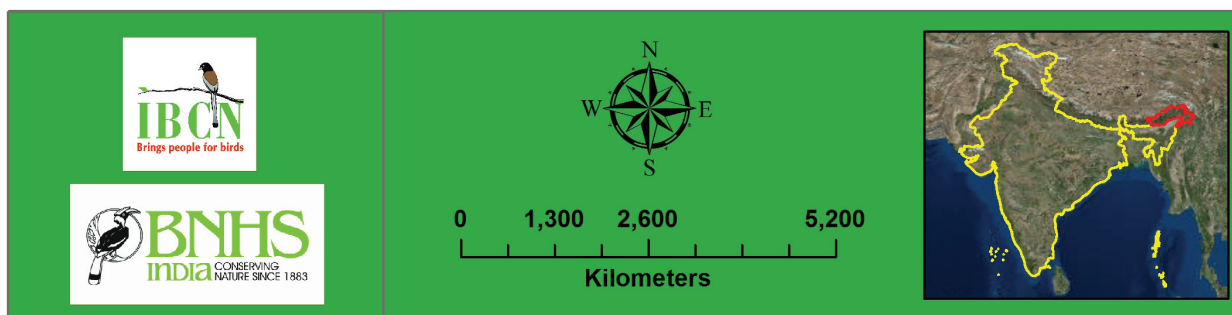
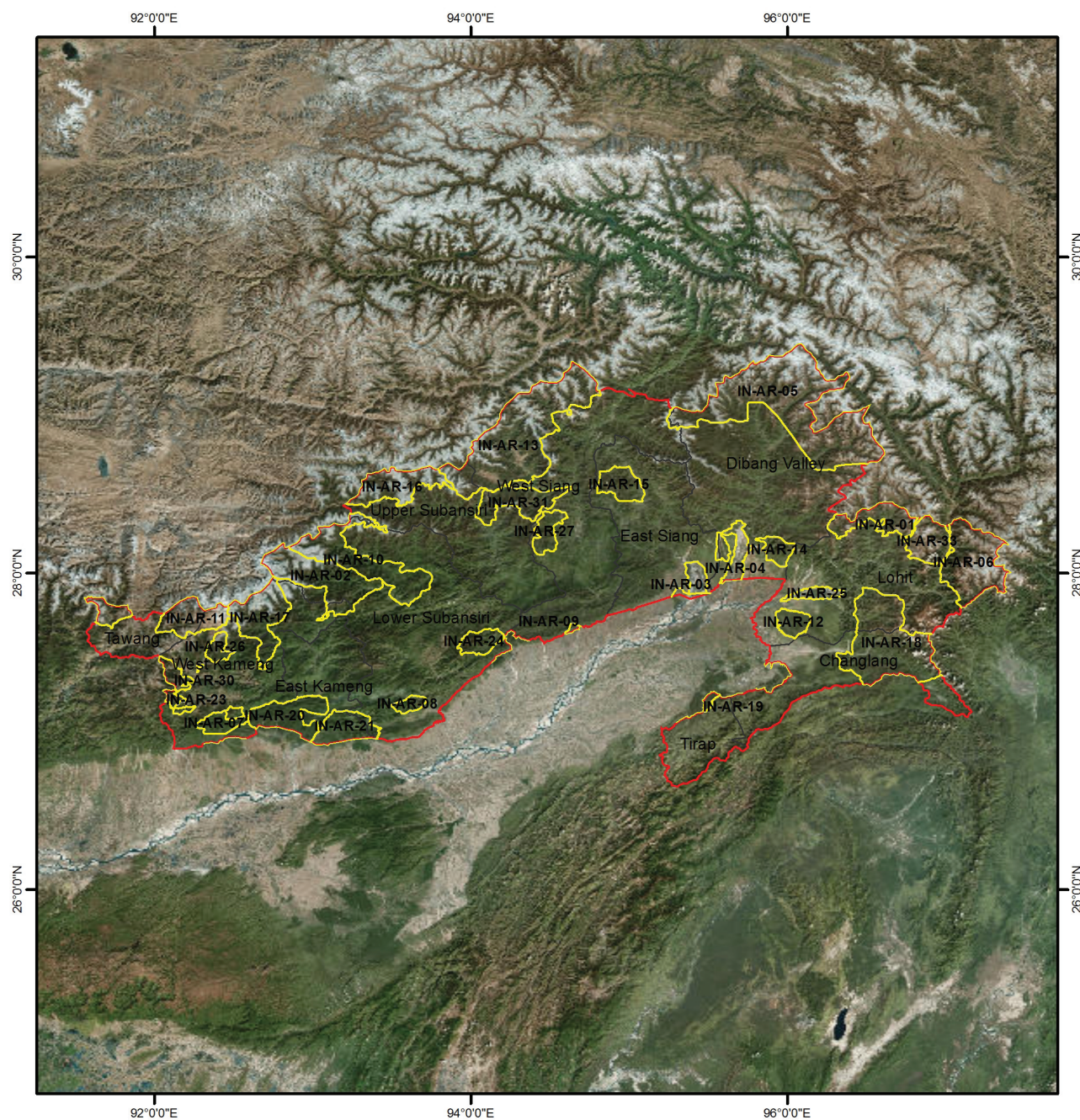
The present state came into existence in 1987. Originally, this tract was administered by the Governor of Assam and was divided into three large divisions, Balipara Frontier Tract (present Tawang, West Kameng, East Kameng, Kurung Kumey, Upper Subansiri, Lower Subansiri, and Papum Pare districts), Sadiya Frontier Tract (present Upper

Siang, West Siang, East Siang, Dibang Valley, Lower Dibang Valley, Anjaw, and Lohit districts) and Tirap Frontier Tract (present Changlang, Anjaw, Longding, and Tirap districts). Till 1972, it was known as NEFA (North East Frontier Agency). In 1972, it was renamed Arunachal Pradesh and was administered as a union territory until 1987.

The climate of Arunachal Pradesh (except for the Great Himalaya and the higher areas of the Lesser Himalaya and the Mishmi Hills, which may be termed as 'mountain type') is tropical 'monsoon' type with a hot, wet summer and a cool, dry winter. The annual rainfall of the state varies from less than 1,500 mm to more than 4,000 mm. The temperature generally ranges from 0 °C in winter (minimum) to 35 °C in summer (maximum). The main features of this mountain climate are a sharp contrast between the sun and the shade temperatures, high diurnal range of temperature, inversion of temperature, and variability of rainfall depending upon exposure and elevation.

The human population of Arunachal Pradesh increased from 1.09 million in 2001 to 1.38 million in 2011 (0.1% of the country's population), of which 77.06% is rural (census 2011). The population density rose from 13 persons per sq. km. to 17. The cultural diversity of Arunachal Pradesh is also

Important Bird Areas in Arunachal Pradesh



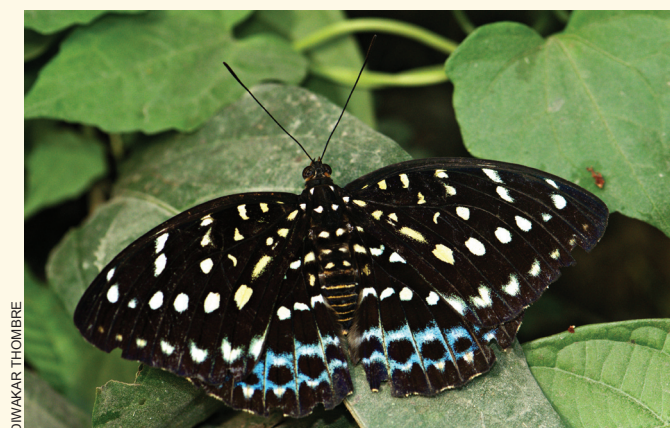
noteworthy, with at least 20 major tribes that are divided again into a number of sub-tribes.

The greater part of the land area is still covered by forests and grasslands (high altitude) or is in its natural state, thus making forestry the most important land use. Arunachal Pradesh is rich in mineral wealth, such as oil (petroleum) and natural gas. Tea is also grown in the eastern areas.

There are well-known protected areas in Arunachal Pradesh, such as Namdapha National Park and Pakke (Pakhui) Wildlife Sanctuary. Both are also tiger reserves under Project Tiger. Arunachal Pradesh is still the land of

adventure and discovery. Eight species of primates have been reported from the Eastern Himalaya, namely Hoolock Gibbon *Hoolock hoolock* with its newly described subspecies, the Mishmi Hills Hoolock *H. h. mishmiensis* (Choudhury 2013a, Roos *et al.* 2014), Slow Loris *Nycticebus bengalensis*, Rhesus Macaque *Macaca mulatta*, Assamese Macaque *M. assamensis*, Pig-tailed Macaque *M. leonina*, Stump-tailed Macaque *M. arctoides*, Arunachal Macaque *M. munzala* and Capped Langur *Trachypithecus pileata*. The latest entrants in this list are Arunachal Macaque and Mishmi Hills Hoolock. The former was described as recently as 2005

IBAS OF ARUNACHAL PRADESH		
IBA Codes	IBA site name	IBA criteria
IN-AR-01	Chaglagaum-Denning	A1, A2
IN-AR-02	Chayang Tajo-Khenewa-Bameng	A1, A2
IN-AR-03	D'Ering Memorial Wildlife Sanctuary	A1, A2, A4i
IN-AR-04	Dibang Reserve Forest and Adjacent Areas	A1, A2
IN-AR-05	Dibang Wildlife Sanctuary	A1, A2
IN-AR-06	Dichu Reserve Forest	A1, A2
IN-AR-07	Eaglenest Wildlife Sanctuary	A1, A2
IN-AR-08	Itanagar Wildlife Sanctuary	A1, A2
IN-AR-09	Kane Wildlife Sanctuary	A1, A2
IN-AR-10	Koloriang-Sarli-Damin Areas	A1, A2
IN-AR-11	Magu Thingbu	A1, A2, A3
IN-AR-12	Manabum and Tengapani Reserve Forests	A1
IN-AR-13	Mechuka-Tato	A1, A2
IN-AR-14	Mehao Wildlife Sanctuary	A1, A2
IN-AR-15	Mouling National Park	A1, A2
IN-AR-16	Nacho-Limeking-Taksing-Majha	A1, A2
IN-AR-17	Nafra-Lada Area	A1, A2
IN-AR-18	Namdapha-National Park	A1, A2
IN-AR-19	Namsangmukh-Borduria	A1, A2
IN-AR-20	Pakke or Pakhui Wildlife Sanctuary	A1, A2
IN-AR-21	Papum Reserve Forest	A1
IN-AR-22	Sangti Valley	A1, A2
IN-AR-23	Shergaon-Tenzinggang-Kalaktang	A1, A2
IN-AR-24	Talle Valley Wildlife Sanctuary	A1, A2
IN-AR-25	Chaporis of Lohit Reserve	A1, A2
IN-AR-26	Thungri-Chaglang-Poshingla Complex	A1, A2
IN-AR-27	Yardi-Rabe Supse Wildlife Sanctuary	A1
IN-AR-28	Zemithang-Nelya	A1, A2
IN-AR-29	Kamlang Wildlife Sanctuary and Reserve Forest	A1, A2
IN-AR-30	Mandla Phudung	A1, A2
IN-AR-31	Monigong-Jorgging-Tuting	A1, A2
IN-AR-32	Sesa Orchid Sanctuary	A1, A2
IN-AR-33	Walong	A1, A2



DIWAKAR THOMBRE

Archduke *Lexias pardalis*



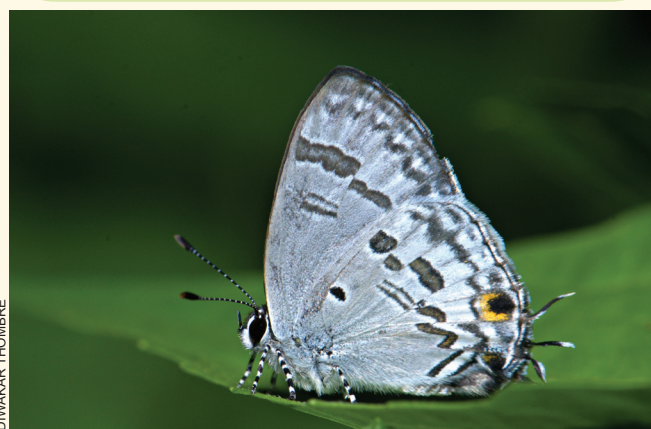
RAJU KASAMBE

Colour Sergeant *Athyma nefte*



DIWAKAR THOMBRE

Popinjay *Stibochiona nicea*



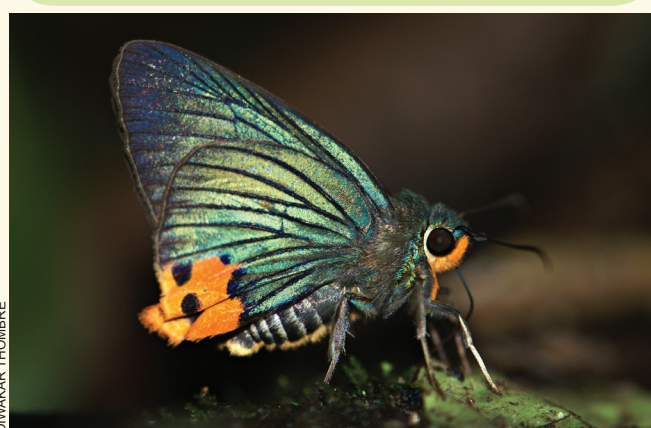
DIWAKAR THOMBRE

Blue Tit *Chliaria kina*



DIWAKAR THOMBRE

Vagrant *Vagrans egista*



DIWAKAR THOMBRE

Indian Awlwing *Choaspes benaminii*



DIWAKAR THOMBRE

Red Lacewing *Cethosia biblis*



DIWAKAR THOMBRE

Elbowed Pierrot *Pyncophallium elna*

Arunachal Pradesh is famous for its butterfly diversity



DHRITIMAN MUKHERJEE

Mishmi Wren-babbler, now known as Rusty-throated Wren-babbler *Spelaeornis badeigularis*, is endemic to the Mishmi Hills in northeast Arunachal Pradesh. This tiny 9 cm bird is common in the undergrowth of broadleaf evergreen forest and degraded secondary forest



DHRITIMAN MUKHERJEE

Rufous-throated Wren-babbler *Spelaeornis caudatus*, found from east Nepal to central Arunachal Pradesh, is an uncommon bird inhabiting the understorey of broadleaf evergreen forest

from Tawang and West Kameng districts, although it was known for a long time and locally called *Mun zala* (monkey of deep forest) by the Dirang Monpa tribe. Anwaruddin Choudhury, naturalist, geographer, primatologist, writer, and administrator, first found this strange-looking macaque in 1997 and published his observations in a local journal. He thought it was a subspecies of the Tibetan Macaque. Later, scientists of Nature Conservation Foundation, based in Mysore, described it as a possible new species in 2005 in *International Journal of Primatology*.

The Eastern Himalaya, particularly Arunachal Pradesh, is rich in fish, reptiles, and amphibians. New species are being discovered almost every year. For example, between 1998 and 2008, 16 species of reptiles were discovered here.

More than 210 species of fish have been recorded till 2011 from Arunachal Pradesh, including about 50 that were new to the state. As in other parts of India, not much attention has been given to protecting the native fish fauna and fish communities, despite the fact that recently three species from Arunachal Pradesh were added to the fish wealth of India: *Amblyceps arunachalensis*, *Erethistoides sekhiensis*, and *Psilorhynchoides arunachalensis*, which are also new to science. We do not know how many new species are waiting to be described.

It is not known how many amphibian species are found in the Eastern Himalaya, as the numbers reported vary from researcher to researcher. According to the Zoological Survey of India, the official government agency for biodiversity inventory, 55 species of amphibians have been reported until now, and there is scope for discovering many more species new to science. As the area lies at the tri-junction of the Indian, Himalayan, and Indo-Chinese subregions, faunal elements of all these subregions are found in the Eastern Himalaya.

Arunachal Pradesh is famous for butterfly and moth species. As in other parts of India, there are some species here that are not found anywhere else in the world. For example, *Callerebia dibangensis* is endemic to the Mishmi Hills, and Arunachal Hairstreak *Eusaspa mikamii* is endemic to Lohit area. Mishmi Silverline *Spindasis mishmisensis* has been recently described and is endemic to Mishmi, from which it was given its scientific name.

Vegetation

Arunachal Pradesh is ranked first among the northeastern states in terms of area under forest cover (Ministry of Environment and Forests 2013). The state has broadly six types of forests: Tropical Wet Evergreen (Rain Forest), Subtropical Broadleaf, Subtropical Conifer, Temperate



DHIRTIMAN MUKHERJEE

Almost 62% of the total geographical area of the state is covered with forest

LIST OF THREATENED BIRDS WITH IBA SITE CODES		
CRITICALLY ENDANGERED		
White-bellied Heron	<i>Ardea insignis</i>	IN-AR-18, 19, 29
White-rumped Vulture	<i>Gyps benghalensis</i>	IN-AR-03, 04, 25
Slender-billed Vulture	<i>Gyps tenuirostris</i>	IN-AR-03, 04, 18, 25, 29
Red-headed Vulture	<i>Sarcogyps calvus</i>	IN-AR-25
Bengal Florican	<i>Houbaropsis bengalensis</i>	IN-AR-03, 04, 25
Bugun Liocichla	<i>Liocichla bugunoram</i>	IN-AR-7, 32
ENDANGERED		
Greater Adjutant	<i>Leptoptilos dubius</i>	Not recorded in any IBA
White-winged Duck	<i>Asarcornis scutulata</i>	IN-AR-03, 04, 08(?), 09(?), 12, 14, 18, 19, 20, 21, 25(?), 29
Masked Finfoot	<i>Heliopais personatus</i>	IN-AR-12 (old record)
Black-bellied Tern	<i>Sterna acuticauda</i>	IN-AR-03
VULNERABLE		
Lesser Adjutant	<i>Leptoptilos javanicus</i>	IN-AR-03, 04, 20, 25
Pallas's Fish-Eagle	<i>Haliaeetus leucoryphus</i>	IN-AR-03, 20
Greater Spotted Eagle	<i>Aquila clanga</i>	IN-AR-03, 07, 18, 29
Eastern Imperial Eagle	<i>Aquila heliaca</i>	IN-AR-31
Swamp Francolin	<i>Francolinus gularis</i>	IN-AR-03, 04, 25
Red-breasted Hill-partridge	<i>Arborophila mandellii</i>	IN-AR-02, 05, 07, 14(?), 15, 16(?), 17(?), 24(?), 26(?), 31(?)
Blyth's Tragopan	<i>Tragopan blythii</i>	IN-AR-05, 07, 13, 14, 15, 17, 18, 23, 24(?), 26, 27(?), 29, 30, 31, 32
Sclater's Monal	<i>Lophophorus sclateri</i>	IN-AR-05, 10, 11, 13, 14, 16, 17, 26(?), 31
Black-necked Crane	<i>Grus nigricollis</i>	IN-AR-22, 28
Wood Snipe	<i>Gallinago nemoricola</i>	IN-AR-01
Indian Skimmer	<i>Rynchops albicollis</i>	IN-AR-03
Dark-rumped Swift	<i>Apus acuticauda</i>	IN-AR-07, 09
Pale-capped Pigeon	<i>Columba punicea</i>	IN-AR-06, 12, 14, 19
Rufous-necked Hornbill	<i>Aceros nipalensis</i>	IN-AR-01, 02, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 27, 29, 30, 31, 32, 33
Marsh Babbler	<i>Pellorneum palustre</i>	IN-AR-04, 07
Rusty-throated Wren-babbler	<i>Spelaornis badeigularis</i>	IN-AR-06, 10 (?), 14
Snowy-throated Babbler	<i>Stachyris oglei</i>	IN-AR-01, 6, 18, 19, 29, 33
Jerdon's Babbler	<i>Chrysomma altirostre</i>	IN-AR-03, 04
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>	IN-AR-03, 04
Beautiful Nuthatch	<i>Sitta formosa</i>	IN-AR-01, 02 (?), 05, 06, 07, 11, 13, 14, 15, 16, 17, 18, 19, 24, 28, 29, 31, 32, 33
NEAR THREATENED		
Spot-billed Pelican	<i>Pelecanus philippensis</i>	IN-AR-03(?), 04
Oriental Darter	<i>Anhinga melanogaster</i>	IN-AR-19, 20, 21, 25
Black-headed Ibis	<i>Threskiornis melanocephalus</i>	IN-AR-20
Cinereous Vulture	<i>Aegypius monachus</i>	IN-AR-3, 25
Lesser Fish-eagle	<i>Ichthyophaga humilis</i>	IN-AR-12, 29
Himalayan Griffon	<i>Gyps himalayensis</i>	IN-AR-03, 28
White-cheeked Partridge	<i>Arborophila atrogularis</i>	IN-AR-01, 18, 19, 20
Satyr Tragopan	<i>Tragopan satyra</i>	IN-AR-23, 26, 30, 32
Grey-headed Parakeet	<i>Psittacula finschii</i>	Found in many IBAs
Blossom-headed Parakeet	<i>Psittacula roseate</i>	Found in many IBAs
Red-breasted Parakeet	<i>Psittacula alexandri</i>	Found in many IBAs
Derbyan Parakeet	<i>Psittacula derbiana</i>	IN-AR-33
Ward's Trogon	<i>Harpactes wardi</i>	IN-AR-02, 05, 06, 07, 10 (?), 14, 16(?), 18, 23, 24, 26(?), 28(?), 29, 30, 32
Great Pied Hornbill	<i>Buceros bicornis</i>	IN-AR-07, 08, 12, 14, 18, 19, 20, 21, 24, 32
Brown Hornbill	<i>Anorrhinus tickelli</i>	IN-AR-12, 18, 19
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>	IN-AR-01, 07, 14, 24, 33
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>	IN-AR-01, 02, 06, 10 (?), 14, 15, 16(?), 18, 24(?), 26(?), 29, 32, 33 (?)
Blackish-breasted Babbler	<i>Sphenocichla humei</i>	IN-AR-07, 10, 14, 15, 16, 18, 28, 29
Rufous-throated Wren-Babbler	<i>Spelaornis caudatus</i>	IN-AR-06, 07, 15, 20, 23, 24, 30
Chevron-breasted Babbler	<i>Sphenocichla roberti</i>	IN-AR-14 (?), 15 (?)
Greater Thick-knee	<i>Esacus recurvirostris</i>	IN-AR-20
River Lapwing	<i>Vanellus duvaucelii</i>	IN-AR-19, 20, 21
Blyth's Kingfisher	<i>Alcedo hercules</i>	IN-AR-07
Yunnan Nuthatch	<i>Sitta yunnanensis</i>	IN-AR-33

Broadleaf, Temperate Conifer, and Subalpine Forests or Alpine Scrub. Small Savannah Grassland patches occur along the major rivers.

According to the Forest Survey of India report of 2013, the forest cover area is 5,154,100 ha, constituting 61.55% of the total geographical area of the state and 6.68% of the country's forest area. Out of this, 19% is protected forest, 21% is reserve forest, and 60.22% is 'unclassified forest'; c. 5.14 million ha is state-owned, and 15,500 ha is under private ownership. Of the total forest area, dense forest constitutes 62.38%, open forest 18.01% and non-forest area 19.74% (Ministry of Environment and Forests 2013).

IBAs AND PROTECTED AREAS

A total of 0.96 million ha of the forest area, constituting 11.44% of the geographical area, is under two national parks (0.25 million ha) and 10 wildlife sanctuaries (0.71 million ha). Namdapha is an important Tiger Reserve. Dihang-Dibang is one of the 11 Biosphere Reserves of the country. Arunachal Pradesh has the second highest number of IBAs in northeast India.

AVIFAUNA

Arunachal Pradesh is one of the topmost birding areas in the world. Choudhury (2006) has listed more than 700 species. It is one of the areas in India where there are chances of discovering new species. For instance, in 1998 a new taxon of monal pheasant *Lophophorus* sp. was discovered (Kumar & Singh 1999). It is suspected to be a hitherto undescribed subspecies of Sclater's Monal *Lophophorus sclateri* or an altogether different species. The male of the new monal appeared very similar to the male Sclater's Monal, except for the completely white tail in the former. In 2006, a species new to science, Bugun Liocichla *Liocichla bugunorum* was described by Athreya (2006). It was found just outside Eaglenest Wildlife Sanctuary. Chewang Bonpo, a birdwatcher from Sikkim, saw this species on April 19, 2011 near Bomdila (2,700 msl) in West Kameng district. This new site is 100 km from Eaglenest, where the species was discovered (Rahmani 2012).

Arunachal Pradesh is still a relatively less explored state, but wherever ornithologists have visited, the bird checklists have been very impressive. A combined list of the East and West Kameng districts, prepared by Anwaruddin Choudhury, Pratap Singh, Aparajita Datta, S. Kartikeyan, Ramana Athreya, and Suresh Kumar, totals 430 species. India has 17 of the global total of 51 species of pheasants, and Arunachal Pradesh has 11 species, i.e., two-thirds of India's total. They are: Himalayan or Impeyan Monal *Lophophorus impejanus*, Sclater's Monal *L. sclateri*, Blyth's Tragopan *Tragopan blythii*, Satyr Tragopan *T. satyra*, Temminck's Tragopan *T. temminckii*, Blood Pheasant *Ithaginis cruentus*, Mrs. Hume's Pheasant *Syrmaticus humiae*, Tibetan

Eared-pheasant *Crossoptilon harmani* (unconfirmed), Grey Peacock-pheasant *Polyplectron bicalcaratum*, Kaleej Pheasant *Lophura leucomelanos*, and Red Junglefowl *Gallus gallus*. The West Kameng region is the only area in the world where three species of tragopan are found.

Godwin-Austen (1875; 1876a, b; 1877) was perhaps the first to publish work on the birds of Arunachal Pradesh (along with Assam and other states of the Northeast). Later, Stevens (1914–1915) published notes on the birds of upper Assam that included some parts of Arunachal Pradesh. Bailey's (1916) notes on the birds of southern Tibet also included some portion of Arunachal Pradesh. The papers of Baker (1913a, b; 1914) were the most comprehensive and described results of the Abor Expedition and also many new species and subspecies. His work was incorporated in the *Fauna of British India* (Baker 1922–1930). Betts (1956) described birds seen in the Subansiri area. Saha (1980, 1985) surveyed Bhutan and Arunachal Pradesh for the Endangered Black-necked Crane *Grus nigricollis* and other species. Ripley *et al.* (1991) did some mistnetting and bird collection in the Upper Noa-Dihing. From 1990 onwards, Singh (1991a, b; 1993; 1994) published many papers and short notes on the birdlife of Arunachal Pradesh. Choudhury (1990, 1992, 1993, 1994, 1998b, 2001, 2002, 2003) has studied the birds of Namdapha National Park and D'Ering Sanctuary, and has extensively surveyed the upper reaches of northwest Arunachal Pradesh. BirdLife International (2001) collated information on threatened birds, including all the threatened species found in Arunachal Pradesh.

Threatened species for which Arunachal Pradesh is very important

Arunachal Pradesh is mainly a mountainous state. There are some low-altitude areas where species such as Bengal Florican *Houbaropsis bengalensis*, Swamp Francolin *Francolinus gularis*, and White-winged Duck *Asarcornis scutulata* are found (BirdLife International 2001). Arunachal Pradesh has four Critically Endangered species (White-bellied Heron, Bengal Florican, two Gyps vulture species), four Endangered species (White-winged Duck, Great Adjutant, Masked Finfoot and Yellow-breasted Bunting), and 18 Vulnerable species, which include Black-necked Crane *Grus nigricollis*, Red-breasted Hill-partridge *Arborophila mandellii*, Swamp Francolin *Francolinus gularis*, Blyth's Tragopan *Tragopan blythii*, Greater Spotted Eagle *Clanga clanga*, Rufous-necked Hornbill *Aceros nipalensis*, Rusty-bellied Shortwing *Brachypteryx hyperthra*, Beautiful Nuthatch *Sitta formosa*, Marsh Babbler *Pellorneum palustra*, Tawny-breasted Wren-babbler *Spelaeornis longicaudatus*, Austen's Babbler *Stachyris oglei*, and Black-breasted Parrotbill *Paradoxornis flavirostris*. There is a single record of the Spot-billed Pelican *Pelecanus philippensis* in the state, from the Lower Dibang Valley (Choudhury 2000b).



Arunachal Pradesh is one of the finest destinations for birdwatchers.
If properly controlled, birdwatching can bring a huge bird tourism revenue to local communities

Arunachal also has at least 19 Near Threatened species, including Black-necked Stork *Ephippiorhynchus asiaticus*, Lesser Fish-eagle *Ichthyophaga humilis*, Cinereous Vulture *Aegypius monachus*, Pallid Harrier *Circus macrourus*, White-cheeked Partridge *Arborophila atrogularis*, Ward's Trogon *Harpactes wardi*, Blyth's Kingfisher *Alcedo hercules*, Great Pied Hornbill *Buceros bicornis*, Brown Hornbill *Anorrhinus tickelli*, Yellow-rumped Honeyguide *Indicator xanthonotus*, Long-tailed Prinia *Prinia burnesii*, Wedge-billed Wren-babbler *Sphenocichla humei*, Rufous-throated Wren-babbler *Sphenocichla caudatus*, and Chestnut-backed Laughingthrush *Garrulax nuchalis*.

Bird species for which Arunachal Pradesh is very important

White-bellied Heron *Ardea insignis* Critically Endangered

This heron qualifies as Critically Endangered because it has a very small and rapidly declining population. The decline is projected to increase in the near future as a result of habitat loss and disturbance (BirdLife International 2014). In Arunachal Pradesh, this heron has been recorded in Namdapha NP (Choudhury 1996a, Singh 1999, Maheswaran 2007), and recently an active nest with adult male and female herons has been sighted for the first time in Namdapha and probably the first time in India too (Mondal & Maheswaran, 2014), as no nesting record of White-bellied Heron has been made anywhere in India prior to this. In December 2014, a Species Recovery Plan was developed for the White-bellied Heron, with Arunachal Pradesh playing a major conservation role in India.

White-winged Duck *Asarcornis scutulata* Endangered

This forest duck qualifies as Endangered because it has a very small, rapidly declining, severely fragmented population, as a result of deforestation, wetland drainage, and exploitation (BirdLife International 2014). In Arunachal Pradesh, it has been reported from the Mehao Wildlife Sanctuary (Choudhury 1995, 1996b), Dibang Reserve Forest (Choudhury 1996b), D'Ering Memorial Wildlife Sanctuary (Green 1992, Barman 1996), Namdapha National Park (Singh 1999, Choudhury 1996a), Subansiri river, Arunachal Pradesh-Assam border (Green 1992), Pakke (Pakhui) Wildlife Sanctuary (Choudhury 1995) and Namtok, near Assam-Arunachal Pradesh border (Choudhury 1996b).

According to Choudhury (2006), it is very rare and found in small numbers in suitable habitat in East Kameng, Papum Pare, East Siang, Dibang Valley, Lohit, Changlang, and Tirap districts. Protected areas and IBAs where it has been recorded are Mehao, Pakke (Pakhui), Namdapha, and D'Ering. Other sites with recent reports are Barduria, Dibang,



SHASHANK DALVI

Derby's Parakeet *Psittacula derbiana* was considered hypothetical for a long time till its regular sighting in recent years in Walong

Miao, Manabum, Namphuk, Namsang, and Tengapani Reserve Forests (Choudhury 2006). During his surveys in 1992–1994, Choudhury (1996b) estimated a total of 60 birds in the state. Srinivasan *et al.* (2010) reported it in December, 2008 at 1,705 msl at Gachhile in Namdapha National Park: two females and a male were seen thrice over two days.



DHRITIMAN MUKHERJEE

The subspecies of Red Giant Flying Squirrel *Petaurista petaurista candidula* is found only in eastern Arunachal Pradesh. It has maroon-red patagium and white underparts compared to the brownish red patagium and buff underparts of *P. p. albiventer*



SHASHANK DALVI

Bugun Liocichla *Liocichla bugunorum*, described to science in 2006, is now considered Critically Endangered. It is endemic to Arunachal Pradesh

Bengal Florican *Houbaropsis bengalensis* **Critically Endangered**

This bustard has suffered a persistent decline in population due to rapid reduction in its grassland habitat, owing to conversion for agriculture and grazing. It therefore qualifies as Critically Endangered (BirdLife International 2014). It has been reported from Dibang Reserve Forest (Choudhury 1996b, 1998a), D'Ering Memorial Wildlife Sanctuary (Narayan 1992, Singh 1994, Choudhury 1996b, Barman 1996), and from Nizam Ghat area in Lower Dibang Valley (Sinha *et al.* 2012). Perhaps the best population is still found in D'Ering Memorial WLS due to the presence of extensive grasslands, but unfortunately, due to extensive grazing and poaching, the population is not fully safe. With better protection measures, this population can be saved.

Chestnut-breasted Partridge *Arborophila mandellii* **Vulnerable**

This partridge is found in most parts of Arunachal Pradesh. In Eaglenest Sanctuary, Allen & Catsis (2007) heard it frequently below Bompou Camp at 1,600–2,100 m, from April 4 to 8, 2006. Abidur Rahman (*pers. comm.* 2010) says that it is very common from Bompou to Sessni in the sanctuary. A dead bird was seen by Singh (1994) at Malinye (1,850 m) on January 10, 1994. During his survey of Dibang-Dihang Biosphere Reserve in Arunachal Pradesh, Choudhury (2008) found that this poorly known bird occurs in the hills and mountains, inhabiting forests at 350–2,500 m. The calls of *Arborophila* were heard at a

number of sites in West Siang, Upper Siang, and the Dibang Valley area of the reserve, which were probably of this species as they were unlike other *Arborophila* spp. Past records, from within or just outside the biosphere reserve are: Dibang Wildlife Sanctuary, in 1994 (Kaul *et al.* 1995), and Malinye 1994 (Singh 1994), both in Dibang Valley district; Seet, adjacent to Mouling, 1998 (Singh 1999). There is a past record dated January 1912 from near the Dri River (erroneously mentioned as Bri in BirdLife International 2001) and Mishmi Hills (now in Dibang Valley district) in January, 1912 (Choudhury 2008). It is also reported from Ahuli in Dibang Valley (Kaul & Ahmed 1993) and West Kameng district (Choudhury 2000a). Srinivasan *et al.* (2010) heard calls in Mugaphi-2 (2,059 msl) and Musala-3 (2,050 msl), and in temperate forest with predominantly bamboo undergrowth near Namdapha National Park.

Blyth's Tragopan *Tragopan blythii* **Vulnerable**

This species is classified as Vulnerable because it is sparsely distributed, and its small population is declining and becoming increasingly fragmented in the face of continuing forest loss and degradation throughout its restricted range (BirdLife International 2014). It has been reported from Dibang WLS (McGowan & Garson 1995), Shimong-Singha track, Upper Siang district (Singh 1999); Mehao WLS (Choudhury 1996c, Kaul *et al.* 1995a, b), Patkai Hills, Eaglenest WLS (BirdLife International 2001), and Sessa Orchid Sanctuary (Choudhury 2000a).

Sclater's Monal *Lophophorus sclateri*

Vulnerable

This striking pheasant is poorly known across all of its remote, inaccessible, and relatively restricted range. It is classified as Vulnerable because it probably has a small population which is naturally fragmented and subject to a significant decline (BirdLife International 2014). It has been reported from Dibang WLS and elsewhere in the Mishmi Hills (Katti *et al.* 1990, Kaul *et al.* 1995a), Mechuka in West Siang (Kaul *et al.* 1995a), Takding in Upper Subansiri, Damin, and Sarli in Lower Subansiri and from Tawang (Kumar & Singh 1998, 1999).

Rufous-necked Hornbill *Aceros nipalensis*

Vulnerable

Found in Assam, Meghalaya, Manipur, Mizoram, Nagaland, northern West Bengal and possibly Sikkim (BirdLife International 2014). In Arunachal Pradesh, it has been reported from the Siang Valley (Katti *et al.* 1990, 1992), Mehao WLS (Singh 1994), Parashuram Kund (Singh 1999), Kamlang WLS (Singh 1994, 1999; Katti *et al.* 1990, 1992), Namdapha National Park (Alström *et al.* 1994, Singh 1999), Sessa Orchid Sanctuary (Singh 1994, 1999; Choudhury 2000a) and Eaglenest WLS (Singh 1994, 1999; Choudhury 2003).

Rusty-bellied Shortwing *Brachypteryx hyperythra*

Near Threatened

Recent surveys have found this species to be a commoner and more widespread than was previously thought. Hence it has been downlisted from Vulnerable to Near Threatened. This species has a moderately small, declining population which qualifies it as Near Threatened. Its decline is thought to be the result of forest clearance and degradation (BirdLife International 2014). It is endemic to the Eastern Himalaya Endemic Bird Area, found especially in Mehao WLS (Katti *et al.* 1992), Dibang WLS (Kaul *et al.* 1995b), Kamlang WLS (Kaul *et al.* 1995b), Namdapha National Park (Athreya 1996, Athreya *et al.* 1997), Tirap (BirdLife International 2001), and Eaglenest WLS (Choudhury 2000a).

Beautiful Nuthatch *Sitta formosa*

Vulnerable

This nuthatch has a small, declining, and severely fragmented population as a result of the loss, degradation, and fragmentation of Evergreen and Semi-evergreen Forests in its range. It therefore qualifies as Vulnerable (BirdLife International 2014). In Arunachal Pradesh, it has been reported from Kamlang Wildlife Sanctuary (Singh 1999), Namdapha National Park (Singh 1994, Alström *et al.* 1994), Sessa Orchid Sanctuary (Singh 1994, Athreya & Karthikeyan 1995), Sesni (Singh 1994), and Mechuka (A.U. Choudhury, *pers. comm.* 2003).

RESTRICTED RANGE SPECIES

In Arunachal Pradesh, two Endemic Bird Areas are found: i. Eastern Himalaya EBA 130, ii. Assam Plains EBA 131. The key habitats of the Eastern Himalaya are Subtropical Hill Forests, Temperate Forests, and Sub-alpine Forests, while the Assam Plains have Wet Grasslands, Reedbeds, and Scrub. Stattersfield *et al.* (1998) have listed 21 restricted-range species in EBA 130, of which 18 are found in Arunachal Pradesh. They are Ward's Trogon, Chestnut-breasted Partridge, Blyth's Tragopan, Sclater's Monal, Beautiful Sibia *Heterophasia pulchella*, Grey Sibia *H. gracilis*, White-naped Yuhina *Yuhina bakeri*, Ludlow's Fulvetta *Alcippe ludlowi*, Hoary-throated Barwing *Actinodura nipalensis*, Streak-throated Barwing *A. waldeni*, Striped Laughingthrush *Garrulax virgatus*, Brown-capped Laughingthrush *G. austeni*, Yellow-vented Warbler *Phylloscopus cantator*, Broad-billed Warbler *Tickellia hodgsoni*, Blackish-breasted Babbler *Sphenocichla humei*, and Snowy-throated Babbler *Stachyris oglei*. In EBA 131, Arunachal has Black-breasted Parrotbill *Paradoxornis flavirostris* and Marsh Babbler *Pellorneum palustre*. Arunachal Pradesh is one of the northeastern states with the largest number of restricted-range species.

Endemic Bird Area 130: Eastern Himalaya

Endemic Bird Area 131: Assam Plains

BIOMES

Owing to great altitudinal variation, from less than 100 m to above 5,000 m in Arunachal Pradesh, five biomes are found in the state. Above 3,600 m lies Biome 5 (Eurasian High Montane – Alpine and Tibetan) with key habitats of alpine and subalpine scrub and grassland, cliffs and rocky slopes, scree, boulders, and high altitude lakes. This biome is found in the Lohit, East Kameng, West Kameng, Upper Dibang, and Tawang districts bordering Tibet. BirdLife International (undated) has listed 48 bird species, of which 20 have been found till now in Arunachal Pradesh. Between 1,800 and 3,600 m is found Biome 7 (Sino-Himalayan Temperate Forest). The key habitats are Broadleaf Evergreen Forest, Broadleaf Deciduous, Mixed Broadleaf Coniferous and Coniferous Forest, and Montane Grassland. A very large number of IBAs fall in this biome. BirdLife International (undated) has listed 112 species for Biome 7, of which 64 have been found in Arunachal. The next is Biome 8 (Sino-Himalayan Subtropical Forest) below 1,800 m but above 1,000 m. Most parts of Arunachal are covered by Biome 7 and 8. The number of bird species that represent Biome 8 is less, about 95. Based on the available literature, 57 species of Biome 8 have been reported in Arunachal. This biome has Lower Montane Rain Forest, Hill Evergreen Forest, and Pine Forest as key habitats. The fourth is Biome 9 (Indo-Chinese Tropical Moist Forest) with Lowland Evergreen Rain

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA		
Chestnut-breasted Partridge	<i>Arborophila mandellii</i>	IN-AR-02, 05, 13(?), 14(?), 15, 16(?), 17(?), 24(?), 26(?)
Blyth's Tragopan	<i>Tragopan blythii</i>	IN-AR-05, 07, 13, 14, 15, 17, 18, 22, 23, 24(?), 26
Slater's Monal	<i>Lophophorus slateri</i>	IN-AR-05, 11, 13, 16, 17, 26(?)
Ward's Trogon	<i>Harpactes wardi</i>	IN-AR-02(?), 05, 07, 10, 16(?), 18, 23, 26(?), 28(?)
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>	IN-AR-01, 02, 06, 07, 10, 15, 16(?), 18, 23, 24(?), 26(?)
Striped Laughingthrush	<i>Garrulax virgatus</i>	IN-AR-11
Rufous-throated Wren-babbler	<i>Spelaeornis caudatus</i>	IN-AR-06, 15, 20, 23, 24
Rusty-throated Wren-babbler	<i>Spelaeornis badeigularis</i>	IN-AR-06, 10, 16, 26, 28
Blackish-breasted Babbler	<i>Sphenocichla humei</i>	IN-AR-10, 14, 15, 16, 18, 28
Snowy-throated Babbler	<i>Stachyris oglei</i>	IN-AR-01, 06, 18, 19
Hoary-throated Barwing	<i>Actinodura nipalensis</i>	IN-AR-07, 17(?), 20, 23, 28
Streak-throated Barwing	<i>Actinodura waldeni</i>	IN-AR-07, 13, 14(?), 16(?), 18, 23, 24
Brown-throated Fulvetta	<i>Alcippe ludlowi</i>	IN-AR-02, 06, 10, 11, 14, 16, 18, 24, 28
Grey Sibia	<i>Heterophasia gracilis</i>	IN-AR-18
Beautiful Sibia	<i>Heterophasia pulchella</i>	IN-AR-02, 05, 06, 07, 10, 13, 14, 15, 16, 17, 18, 23, 24, 26
White-naped Yuhina	<i>Yuhina bakeri</i>	IN-AR-06, 07, 10, 14, 15, 16, 17, 18, 20, 23, 28
Yellow-vented Warbler	<i>Phylloscopus cantator</i>	IN-AR-10, 14, 15, 16, 17, 18, 19, 20, 23, 24
Broad-billed Warbler	<i>Tickellia hodgsoni</i>	IN-AR-02(?), 07, 09(?), 10, 14, 15, 16, 17(?), 18, 20, 23, 24, 26(?), 28
ENDEMIC BIRD AREA 131: ASSAM PLAINS		
Marsh Babbler	<i>Pellorneum palustre</i>	IN-AR-04, 07, 20
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>	IN-AR-03, 04

Forest, Semi-evergreen Rain Forest, and Moist Deciduous Forest. Only 19 species are considered to be representative of this biome, out of which nine have been reported from Arunachal Pradesh. As this biome has thick forests with dense understorey and vegetation, perhaps more species are present here than are known till now. Some areas of this hilly state are almost flat, forming part of the Brahmaputra river floodplains, especially bordering Assam. This area represents Biome 12 (Indo-Gangetic Plains). Two IBAs represent this biome: D'Ering Memorial Wildlife Sanctuary and Dibang Reserve Forest. Biome 12 is represented by 13 bird species, of which at least five have been found here, including threatened birds such as the Bengal Florican *Houbaropsis bengalensis*, Swamp Francolin *Francolinus gularis*, and Jerdon's Babbler *Chrysomma altirostre*.

SOME NEW RECORDS TO ARUNACHAL PRADESH AFTER 2004

Black-headed Greenfinch *Carduelis ambigua*

Rasmussen & Anderton (2012) describe Black-headed Greenfinch as hypothetical in India. However, it was observed in 2008 by Choudhury (2013b) between Walong and Kibithu in Anjaw district. Gode (2013) mentioned this species in his checklist from Lohit Valley (IN-AR-25), and Dalvi (2013) states that it was commonly seen perched on overhead electric wires and coniferous trees from Anini, Upper Dibang district, Arunachal Pradesh. Also, Atul Jain, Harkirat Singh Sangha, and Manoj Sharma sighted this bird at Walong on May 7, 2013. Singh (2013) sighted a

flock (26+) of Black-headed Greenfinch perched on wires at Walong PWD rest house.

Lord Derby's Parakeet *Psittacula derbiana* Near Threatened

A few parakeets seen in Kibithu in Anjaw district in 2008 were suspected to be *Psittacula derbiana* (Choudhury 2013b). Gode (2013) recorded this species from Lohit Valley. Singh (2013) also recorded this species from Walong. Later, he also sighted a couple of birds at Tilam on the Walong-Kibithu route. However, Rasmussen & Anderton (2012) treat this bird as hypothetical. This species is listed as Near Threatened due to its declining population in some areas. It is also trapped and traded extensively, and its population is suspected to be experiencing a moderately rapid decline (BirdLife International 2014).

Elliot's Laughingthrush *Garrulax elliotii*

Dalvi (2013) visited Anini in Upper Dibang district on the border of Dihang-Dibang Biosphere Reserve, where he happened to see two Elliot's Laughingthrush. The birds responded to call playback. Rasmussen & Anderton (2012) describe this bird as hypothetical in India. Even Grimmett *et al.* (2011) have listed it under doubtful species. Whereas the bird is fairly common and resident in China, this is the first record for India.

Tristram's Bunting *Emberiza tristrami*

Naniwadekar *et al.* (2013) sighted and photographed a bunting (family *Emberizidae*) on the way to Rani Jheel



ROHIT NANIWADEKAR



ASAD R. RAHMANI

Unfortunately, hunting is still quite prevalent in Arunachal Pradesh, but with the spread of education, social media, and interaction with outsiders, many local people are realizing the importance of conservation. Mr. Ipra Makola (above right) is a devoted conservationist and does not allow hunting in his area

plateau, before Bom Nala. One more individual was observed in the middle of evergreen forest at an elevation of 800 msl. On comparing the morphological characters of the bird with a field guide, it was concluded that it was Tristram's Bunting. This bird is reported to breed in south-east Siberia, Ussuriland, north-east China, and North Korea. It winters in southern China and is a rare winter visitor to northern Myanmar.

Godlewski's Bunting *Emberiza godlewskii*

Rasmussen & Anderton (2012) describe this bird as hypothetical in India, while Grimmett *et al.* (2011) have listed it under doubtful species. Del Hoyo *et al.* (2011) also fail to show its distribution in the Indian subcontinent. However, Choudhury (2013b) observed several birds between Walong and Kibithu in Anjaw district in 2008. Gode (2013) reported this bird from Lohit Valley in Arunachal. Sharma *et al.* (2014) sighted a bunting perched on an electric cable along the road from Walong to Kibithu, close to Dong village in Anjaw district. Photographs of the bird were taken and later it was seen with food in its beak. Although the nest was not located, calls of the chicks were heard, pleading for food. The photographed bird was identified to be Godlewski's Bunting.

Black-browed Tit *Aegithalos bonvaloti* ?? *iouschistos*

Sangha *et al.* (2013) spotted six or seven *Aegithalos* tits in dry bush along the Walong-Kibithu road. Later,

an individual was spotted and photographed close to Walong. The bird did not resemble any of the *Aegithalos* tits occurring from northeastern India. On comparing the photograph with field guides, the bird was confirmed to be Black-browed Tit. This is considered as a new record for the Indian subcontinent.

Yunnan Nuthatch *Sitta yunnanensis* Near Threatened

The Yunnan Nuthatch is an endemic bird of China with no records from South Asia. BirdLife International (2014) treats it as Near Threatened as it has a moderately small range, and is thought to have a small global population. Habitat loss is one of the reasons for the declining number of this species. Bonpo & Kuriakose (2014) sighted a nuthatch which looked unusual. The bird was photographed at Helmet Top, 19 km from Walong. Later, it was identified as Yunnan Nuthatch, and considered to be a new record for South Asia. On December 10, 2014, Ranjan Kumar Das (*in litt.* 2014) photographed this bird in Walong.

Dark-rumped Swift *Apus acuticauda* Vulnerable

This is a poorly known species and qualifies as Vulnerable due to its small population (BirdLife International (2014). It was recorded from the states of Meghalaya, Mizoram,

RAJAT BHARGAVA



RAMKI SREENIVASAN



AWADESH KUMAR



ROHIT NANIWADEKAR



Providing artificial hornbill beaks (above) to decorate traditional headgear is good deterrent to hunting. Hunting of small birds for food will be curtailed through education and implementation of the law

ROHIT NANIWADEKAR



Although legally banned by the order of the Supreme Court, some timber harvesting is allowed under certain circumstances

and Nagaland, but not from Arunachal Pradesh, until Choudhury (2013c) reported the first confirmed sighting along with photographic evidence from Kane Wildlife Sanctuary in West Siang district. The birds were observed near a cliff on the banks of the Siji river.

Indian Spotted Eagle *Clanga hastata* Vulnerable

Maheswaran (2013) conducted surveys in Tawang district of Arunachal Pradesh. During one survey, he sighted Indian Spotted Eagle soaring near Zimmithang Tourist Lodge in 2009. BirdLife International (2014) describes this species as widespread but poorly known, and it is thought to have a small and declining population. It therefore qualifies as Vulnerable.

THREATS AND CONSERVATION ISSUES

Arunachal Pradesh has many conservation issues, but they are comparatively less than the other states of northeastern India as many areas here are still not easily accessible. The key threats to the IBAs are as follows:

Illegal felling: Illegal felling of trees is mainly for the needs of a growing human population, and also for the timber industry. Forests are cleared to make more space for agriculture. This is particularly affecting lowland forests, and is even taking place within some protected areas. Felling provides quick money and is a major source of livelihood. At places, the economy is almost entirely based on timber. The habitats of many bird species are getting reduced because of this activity.

Firewood collection: Many of the forested areas are under pressure from the local population. People collect firewood regularly, especially in winter for heating and fuel, which causes great disturbance to many bird species.

Conversion of natural habitats to agriculture: One of the main threats is the continuing conversion of natural grasslands and wetlands for agricultural and urban land use, together with agricultural intensification and industrialization (Stattersfield *et al.* 1998).

Jhum or shifting cultivation: Unsustainable shifting cultivation in the state is another major threat. *Jhum* could be sustainable if people practised it on a small scale, using clearing cycles of 15–20 years, but in many areas increased population pressure has led to rapid reduction in this cycle.

Encroachment: There has been extensive encroachment into many IBA sites, including some protected sites, by the local population.

Poaching: Poaching is one of the major problems here as well as in the other north-eastern states. Most of the poaching is done by snares and guns. Birds are also hunted for local consumption.

Dam building: The mega dams proposed on the

Rivers Siang, Dibang, Lohit, and Subansiri, among others, are going to be major threats in the near future. Besides submerging large forested areas, the resultant influx of labourers and other developmental activities will have a major impact on the birds as well as on biodiversity as a whole.

Rituals and traditions: The tribal people of Arunachal Pradesh still use bird parts for traditional customs and ceremonies. For instance, hornbill beaks are used as hats and feathers are used by priests while performing rituals. Apart from this, peafowl tail feathers and claws of eagles are also used for decorative purposes. During festivals, birds are also hunted down to provide a feast to the village (Taba & Mize 2011).

REFERENCES

- Allen, S. and Catsis, M. (2007) On the trail of the Bugun Liocichla *Liocichla bugunorum* in north-east India. *BirdingASIA* 7: 75–80.
- Alström, P., Jirle, E., Jäderblad, M., Kjellén, N., Larsson, G., Paulsrud, A., Saellström, Smittberg, P., and Ålind, P. (1994) Birds and mammals observed in Namdapha National Park, Arunachal Pradesh, 6–14 February 1994. Unpubl.
- Athreya, V.R. (1996) Birds of Namdapha Tiger Reserve, Arunachal Pradesh, India. *Newsletter for Birdwatchers* 36: 72–74.
- Athreya (2006) A new species of *Liocichla* (Aves: Timaliidae) from Eaglenest Wildlife Sanctuary, Arunachal Pradesh, India. *Indian BIRDS* 2(4): 82–94.
- Athreya, R.M. and Karthikeyan, S. (1995) A report on a visit to the wildlife sanctuaries in the Dapla Hills of Arunachal Pradesh. Unpubl.
- Athreya, R.M., Captain, A.S. and Athreya, V.R. (1997) A faunal survey of Namdapha Tiger Reserve, Arunachal Pradesh, India (October 1996 and January–February 1997). Unpubl.
- Bailey, F.M. (1916) Notes from Southern Tibet. *JBNHS* 24: 72–78.
- Baker, E.C.S. (1913a) Zoological results of the Abor expedition 1911–1912, Birds. *Records of Indian Museum* 8: 259–288.
- Baker, E.C.S. (1913b) On a small collection of birds from the Mishmi Hills, NE frontier. *Records of Indian Museum* 9: 251–254.
- Baker, E.C.S. (1914) Description of new birds from North-east frontiers of India. *Bull. British Ornithological Union* 35: 17–91.
- Baker, E.C.S. (1922–1930) *The Fauna of British India, including Ceylon and Burma*. 2nd edn. Taylor and Francis, London.
- Barman, R. (1996) Birds of D'Ering Memorial Wildlife Sanctuary, Arunachal Pradesh. *Newsletter for Birdwatchers* 36: 47–49.
- Betts, F.N. (1956) Notes on birds of the Subansiri area, Assam. *JBNHS* 53: 397–414.
- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- BirdLife International (2014) Species factsheets. Downloaded from <http://www.birdlife.org>. (Accessed on September 11, 2014).
- BirdLife International (undated) *Important Bird Areas (IBAs) in Asia: Project Briefing Book*. BirdLife International, Cambridge, UK. Unpubl.
- Bonpo, C.R. and Kuriakose, J. (2014) Yunnan Nuthatch *Sitta*

- yunnanensis* from Walong, Arunachal Pradesh: a new species for South Asia. *Indian BIRDS* 9(4): 105–106.
- Choudhury, A.U. (1990) Bird observations from Namdapha National Park and adjacent areas. *Arunachal Forest News* 8(1&2): 38–43.
- Choudhury, A.U. (1992) Some birds in D'Ering Sanctuary. *Arunachal Forest News* 10(1&2): 39–42.
- Choudhury, A.U. (1993) On a possible sight record of the Little Gull *Larus minutus* in Arunachal Pradesh. *JBNHS* 90(2): 290.
- Choudhury, A.U. (1994) A new crane-migration route discovered. *Asian Wetland News* 7(1): 18.
- Choudhury, A.U. (1995) White-winged Duck in Mehao and Pakhui Sanctuaries of Arunachal Pradesh. *Threatened Waterfowl Research Group Newsletter* 7: 12.
- Choudhury, A.U. (1996a) Winter waterfowl count in Namdapha National Park. *OBC Bulletin* 23: 29–30.
- Choudhury, A.U. (1996b) Survey of the White-winged Wood Duck and the Bengal Florican in Tinsukia district and adjacent areas of Assam and Arunachal Pradesh. The Rhino Foundation for nature in NE India, Guwahati.
- Choudhury, A.U. (1996c) On the trail of Blyth's Tragopan. *World Pheasant Assoc. News* 51: 14–16.
- Choudhury, A.U. (1998a) The Bengal Florican *Eupodotis bengalensis* Gmelin 1789 in Dibang Valley district of Arunachal Pradesh. *JBNHS* 95: 342.
- Choudhury, A.U. (1998b) Some new elevation records of birds from Mehao Wildlife Sanctuary, Arunachal Pradesh, India. *Forktail* 14: 71.
- Choudhury, A.U. (2000a) The birds of Eaglenest and Sessa Orchid Sanctuaries, Arunachal Pradesh. Unpublished report to the Oriental Bird Club.
- Choudhury, A.U. (2000b) *The Birds of Assam*. Gibbon Books, Guwahati and World Wide Fund for Nature-India, Guwahati.
- Choudhury, A.U. (2001) Survey of Birds in Sangti-Shergaon-Kalaktang areas of West Kameng district, Arunachal Pradesh. BirdLife International, The Royal Society for the Protection of Birds, Wild Bird Federation Taiwan and Bombay Natural History Society, Mumbai. Pp. 27 + map.
- Choudhury, A.U. (2002) Biodiversity survey in the upper areas of East Kameng district, Arunachal Pradesh. Interim report. WWF-India Assam & Arunachal Office, Guwahati.
- Choudhury, A.U. (2003) Birds of Eaglenest Wildlife Sanctuary and Sessa Orchid Sanctuary, Arunachal Pradesh, India. *Forktail* 19: 1–13.
- Choudhury, A.U. (2006) *A Pocket Guide to the Birds of Arunachal Pradesh*. Gibbon Books and The Rhino Foundation for Nature in NE India. Pp. 109.
- Choudhury, A.U. (2008) Survey of mammals and birds in Dihang-Dibang Biosphere Reserve, Arunachal Pradesh. Final Report to Ministry of Environment & Forests, Government of India. The Rhino Foundation for nature in NE India, Guwahati. Pp. 70.
- Choudhury, A.U. (2013a) Description of a new subspecies of Hooleck Gibbon *Hooleck hooleck* from Mishmi Hills from North East India. *RFNEI Newsletter & Journal* 9: 49–59.
- Choudhury, A.U. (2013b) Chaglagam-Denning-Walong: Arunachal's wild east. *Mistnet* 14(4): 9–10.
- Choudhury, A.U. (2013c) First record of the Dark-rumped or Khasi Hills Swift *Apus acuticauda* in Arunachal Pradesh. *RFNEI Newsletter & Journal* 9: 65–68.
- Dalvi, S. (2013) Elliot's Laughingthrush *Trochalopteron elliotii* and Black-headed Greenfinch *Chloris ambigua* from Anini, Arunachal Pradesh, India. *Indian BIRDS* 8(5): 130.
- del Hoyo, J., Elliott, A., Christie, D. (2011) *Handbook of the birds of the world. Volume 16. Tanagers to New World blackbirds*. 16: 1–893. Lynx Publishers. Barcelona.
- Gode, N. (2013) Birding in Lohit Valley, Arunachal Pradesh. *Indian BIRDS* 8(5): 126–127.
- Godwin-Austen, H.H. (1875) Description of a supposed new *Actinura* from the Dafla Hills. *Annals and Magazine of Natural History* 16: 339–340.
- Godwin-Austen, H.H. (1876a) List of the birds collected on the expedition into the Dafla Hills, Assam, together with those obtained in the adjacent Darrang terai. *J. Asiatic Soc. Bengal* 45(2): 64–85.
- Godwin-Austen, H.H. (1876b) Fifth list of the birds from the hill ranges of the Northeast Frontier of India. *J. Asiatic Soc. Bengal* 45(2): 191–204.
- Godwin-Austen, H.H. (1877) Description of three new species of the genera *Pellorneum*, *Actinura* and *Pomatorhinus* lately collected in the neighbourhood of Sadiya, Assam, by Mr. M.M.J. Ogle of the Topographical Survey. *J. Asiatic Soc. Bengal* 46(2): 41–45.
- Green, A.J. (1992) The status and conservation of the White-winged Wood Duck *Cairina scutulata*. Special Publication No. 17. IWRB, Slimbridge, UK.
- Grimmett *et al.* (2011) *Birds of the Indian Subcontinent* 2nd Eds. Christopher Helm (Publishers) Ltd., London, UK. Pp. 528.
- Katti, M., Manjrekar, N., Mukherjee, S., and Sharma, D. (1990) A report on wildlife survey in Arunachal Pradesh with special reference to Takin. Unpublished report to the Wildlife Institute of India, Dehradun.
- Katti, M., Singh, P., Manjrekar, N., Sharma, D., and Mukherjee, S. (1992) An ornithological survey in eastern Arunachal Pradesh, India. *Forktail* 7: 75–89.
- Kaul, R. and Ahmed, A. (1993) Pheasant surveys in Arunachal Pradesh, India, in February-March 1991. Pp. 50–54. In: Jenkins, D. (Ed.) (1992) *Pheasants in Asia*. WPA, Reading, UK.
- Kaul, R., Raza, R., and Kalsi, R. (1995a) Pheasant surveys in Arunachal Pradesh. Pp. 28–34. In: Jenkins, D. (Ed.) *Ann. Rev. World Pheasant Assoc.* 1993/94. World Pheasant Association, Reading, UK.
- Kaul, R., Raza, R., and Kalsi, R. (1995b) Wildlife studies in north-east India–II [Jan.–Feb., 1994] [Arunachal Pradesh]. Prepared for the Peter Scott Trust, Jamnagar. Unpubl.
- Kumar, R.S. and Singh, P. (1998) Status and distribution of pheasants in Arunachal Pradesh, Eastern Himalayas, India. Paper presented at the National Seminar on Wildlife Conservation, Research and Management, Wildlife Institute of India, Dehradun.
- Kumar, R.S. and Singh, P. (1999) Discovery of a new monal from Arunachal Pradesh. *OBC Bulletin* 30: 35–38.
- Maheswaran, G. (2007) Records of White-bellied Heron *Ardea insignis* in Namdapha Tiger Reserve, Arunachal Pradesh, India. *BirdingASIA* 7: 48–49.
- Maheswaran, G. (2013) Bird records from Tawang District, Arunachal Pradesh, India. *JBNHS* 110(1): 35–49.
- McGowan, P.J.K. and Garson, P.J. (1995) *Pheasants: status survey and conservation action plan 1995–1999*. IUCN: The World Conservation Union, Switzerland.
- Ministry of Environment and Forests (2013) State of Forest Report 2001. Forest Survey of India, Dehra Dun.

- Mondal, H.S. and Maheswaran, G. (2014) First nesting record of White-bellied Heron *Ardea insignis* in Namdapha Tiger Reserve, Arunachal Pradesh, India. *BirdingASIA* 21: 13–17.
- Naniwadekar, R., Viswanathan, A., Kumar, R., and Dalvi, S. (2013) First record of Tristram's Bunting *Emberiza tristrami* from India. *Indian BIRDS* 8(5): 134–135.
- Narayan, G. (1992) Ecology, distribution and conservation of the Bengal Florican *Houbaropsis bengalensis* (Gmelin) in India. Ph.D. thesis, University of Bombay.
- Rahmani, A.R. (2012) *Threatened Birds of Asia – Their Conservation Requirements*. Indian Bird Conservation Network: Bombay Natural History Society, Royal Society for the Protection of Birds and BirdLife International. Oxford University Press. Pp. xvi + 864.
- Rasmussen, P.C. and Anderton, J. (2012) *Birds of South Asia: The Ripley Guide*. 2 vols. Smithsonian Museum, Washington DC and Lynx Edicions, Barcelona.
- Ripley, S.D., Saha, S.S., and Beehler, B.M. (1991) Notes on birds from the Upper Nao Dihing, Arunachal Pradesh, Northeastern India. *Bull. Brit. Orn. Club* 111(1): 19–28.
- Roos, C., Boonratana, R., Supriatna, J., Fellowes, J.R., Groves, C.P., Nash, S.D., Rylands, A.B., and Mittermeier, R.A. (2014) An updated taxonomy and conservation status review of Asian primates. *Asian J. Primatology* 4(1): 2–38.
- Saha, S.S. (1980) Black-necked Crane in Bhutan and Arunachal Pradesh – A survey report for January-February 1978. *JBNHS* 77(2): 326–328.
- Saha, S.S. (1985) Aves. *Rec. Zool. Surv. India* 82: 303–318.
- Sangha, H.S., Sharma, M., and Jain, A. (2013) The Black-browed Tit *Aegithalos bonvaloti* in Arunachal Pradesh: A new species for the Indian Subcontinent. *Indian BIRDS* 8(5): 137–139.
- Sharma, M., Sangha, H.S., and Jain, A. (2014) Godlewski's Bunting *Emberiza godlewskii* in Arunachal Pradesh: A first breeding record for the Indian Subcontinent and review of its status in the region. *Indian BIRDS* 9 (2): 49–51.
- Singh, A.P. (2013) Lord Derby's Parakeet *Psittacula derbiana* and Black-headed Greenfinch *Carduelis ambigua* in Arunachal Pradesh, India. *Indian BIRDS* 8(5): 133.
- Singh, P. (1991a) Sighting of the Tibetan Blood Pheasants in Tawang District of Arunachal Pradesh. *World Pheasants Association News* 32: 11–12.
- Singh, P. (1991b) Avian and mammalian evidences in Pakhui Wildlife Sanctuary in East Kameng district, Arunachal Pradesh. *Arunachal Forest News* 9(2): 1–10.
- Singh, P. (1993) Breeding record of Ferruginous Flycatcher *Muscicapa ferruginea* (Hodgson). *JBNHS* 90(1): 97–98.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh. *Forktail* 10: 65–104. Published 1995.
- Singh, P. (1999) Bird survey in selected localities of Arunachal Pradesh, India. Wildlife Institute of India, Dehradun.
- Sinha, A., Hoque, J., Pradhan, T., Bakshi, M.K., Pulu, J., Singh, A.K., and Ahmed, M.F. (2012). Sighting record of Bengal Florican *Houbaropsis bengalensis* (Gmelin, 1789) (Aves: Gruiformes: Otididae) in Lower Dibang Valley District, Arunachal Pradesh, India. *Journal of Threatened Taxa* 4(14): 3375–3376.
- Srinivasan, U., Dalvi, S., Naniwadekar, R., Anand, M.O., and Dutta, A. (2010) The birds of Namdapha National Park and surrounding areas: recent significant records and a checklist of the species. *Forktail* 26: 92–116.
- Stattersfield, A.J., Crosby, M.J., Long, A.J. and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.
- Stevens, H. (1914–1915) Notes on the birds of upper Assam. *JBNHS* 23: 234–268, 547–570, 721–736.
- Taba, R. and Mize, D. (2011) Anthropocentric threats to birds in Arunachal Pradesh. In: Bhupathy, S., Prusty, B.A.K, Kumara, R.S.C., Quadros, G., and Pramod, P. (Eds) (2011) *Status of Indian Birds and their Conservation. Proceedings of the First International Conference on Indian Ornithology, 19–23 November, 2011*. Sálim Ali Centre for Ornithology and Natural History, Coimbatore, India. Pp. 301.

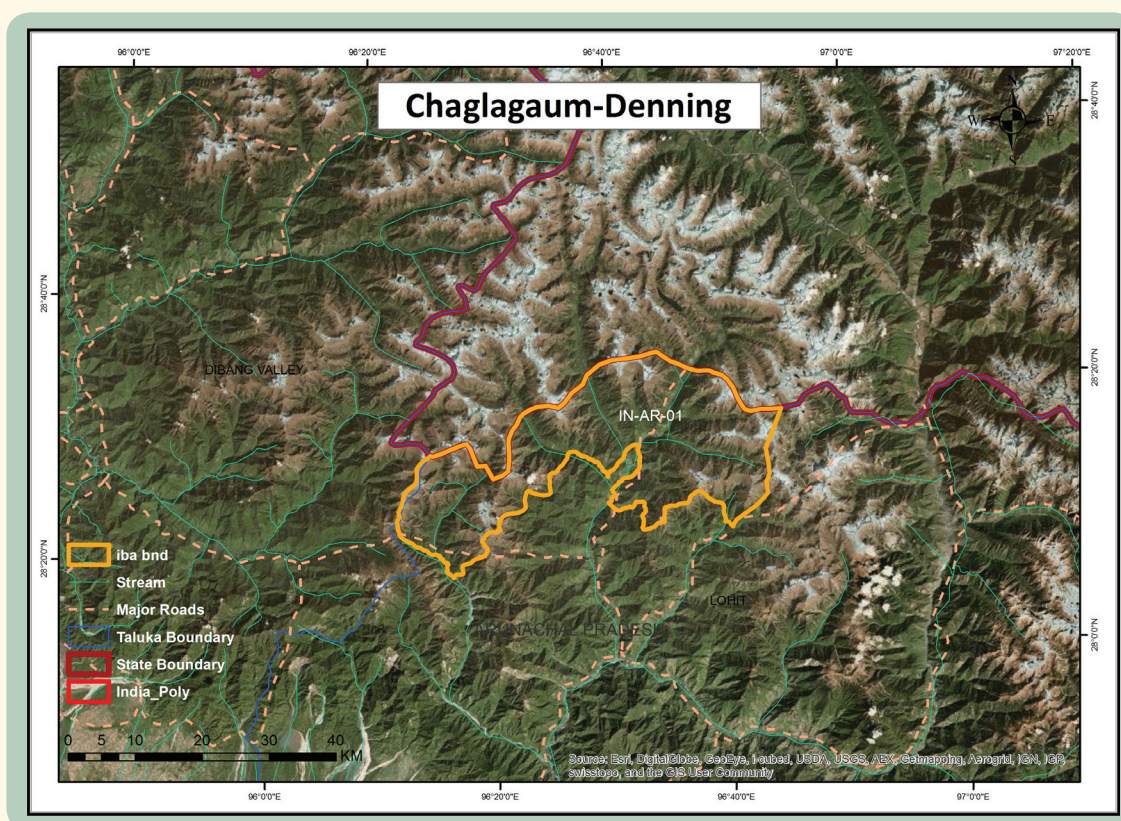
CHAGLAGAUM-DENNING

IN-AR-01

IBA Site Code	: IN-AR-01	Altitude	: >1,000–5,000 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: > 2,000 mm
District	: Lohit, Anjaw	Temperature	: 0 °C to 25 °C
Coordinates	: 27° 50' 00" N, 96° 50' 00" E	Biogeographic Zone	: Himalaya
Ownership	: Private, Government	Habitats	: Montane Wet Temperate Forest, Sub-alpine Dry Scrub, Alpine Dry Pasture
Area	: 150,000 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

Chagлагаum-Denning is a large wilderness in the Lohit and Anjaw districts of Arunachal Pradesh, along the border with Tibet. Chagлагаum is a proposed reserve forest and community forest, while Denning is a reserve forest west of Chagлагаum. The River Lohit forms the southern boundary of this IBA. Walong area was included in this IBA, but is now listed as a separate IBA.

The mountain ranges along the northern border remain snow-covered for the greater part of the year. Two villages, Goiliang and Chagлагаum, are within the Chagлагаum proposed reserve forest. Goiliang village lies in the southeast part of the area, while Chagлагаum is in the north.

The Lohit, Dallai, Daf, and Tiding are the main rivers. Other important rivers and streams are Haramachi, Kuronmachi, Daren, Kajop, Kazomiyu, Ami, Telua, Tasit, Chengai, and Katso.

The vegetation is Subtropical Broadleaf and Coniferous up to middle elevation, above which occurs Temperate Broadleaf Forest, with Pine and mixed conifers, especially in the north. Further up there is Alpine and Sub-alpine Scrub.

AVIFAUNA

A total of 259 bird species are reported from this IBA, of which 159 are biome-restricted species (Hazarika 2003). This site falls in the Eastern Himalaya Endemic Bird Area

VULNERABLE

Wood Snipe	<i>Gallinago nemoricola</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

White-cheeked Hill-Partridge	<i>Arborophila atrogularis</i>
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Austen's Babbler	<i>Stachyris oglei</i>

(Stattersfield *et al.* 1998) and covers three biomes due to its altitudinal variations. In Biome 5 (Eurasian High Montane – Alpine and Tibetan) 13 out of 48 biome-restricted species have been found. Seventy out of 112 Biome 7 (Sino-Himalayan Temperate Forest) species were recorded, which proves that good Sino-Himalayan Temperate Forest is surviving in this IBA. Similarly, the site has extensive tracts of Sino-Himalayan Subtropical Forest (Biome 8). BirdLife International (undated) has identified 95 species in this biome, out of which 64 species were recorded by Hazarika (2003).

Hazarika (2003) reported Himalayan Monal *Lophophorus impejanus* from this site, and the adjoining Dichu Reserve Forest (another IBA). He had two sightings near Taramko East, in the upper part of Chaglaguam, one of three individuals and another of two birds. Several confirmed reports from the higher reaches were given to him. Himalayan Monal is a large, conspicuous pheasant, more often seen in the Western Himalaya. According to Ali & Ripley (1987), this pheasant is replaced in the Eastern Himalaya by Sclater's Monal *Lophophorus sclateri*. However, Singh (1994) has also noted it from east Arunachal. This proves that it has a much wider distribution than known earlier.

One of the most important sightings in this IBA is of the Wood Snipe *Gallinago nemoricola*, a Vulnerable species, according to BirdLife International (2001). Two birds were seen on Ganing river and a single bird in Kajop river area. Singh (1994) has recorded this species on the tract between Migging-Pango-Nugguing-Tuting and Keegut.

The Rufous-necked Hornbill *Aceros nipalensis* and Beautiful Nuthatch *Sitta formosa* are also globally Threatened species (BirdLife International 2001). Both depend upon dense broadleaf forest, which is under threat all over northeast India. A single Rufous-necked Hornbill was observed at Denning RF, north of Lohitpur (just outside Chaglaguam). A flock of 11 Beautiful Nuthatch was observed on the slope of the bank of Tiding river, in the southwest part of Chaglaguam (Hazarika 2003).

OTHER KEY FAUNA

Due to its inaccessibility, the forest is well preserved and is a true representation of climax vegetation. This is the abode of temperate animals such as Red Panda *Ailurus fulgens*, Asiatic Black Bear *Ursus thibetanus*, Red Goral *Naemorhedus baileyi*, Chinese Serow *Capricornis milneedwardsii*, Himalayan Serow *C. thar*, Alpine Musk Deer *Moschus chrysogaster*, Black Musk Deer *M. fuscus*, Gongshan Muntjac *Muntiacus gongshanensis* (Choudhury 2013), and Takin *Budorcas taxicolor*. Gongshan or Black Muntjac may have distribution in eastern Arunachal Pradesh (Menon 2014). Other important species recorded are Barking Deer *Muntiacus muntjak* and Leopard *Panthera pardus*. Snow Leopard *Panthera uncia* is reported above 3,000 m (Haridasan *et al.* 1999). However, it is not confirmed.

LAND USE

- Forestry
- Agriculture

THREATS AND CONSERVATION ISSUES

- Tree cutting for firewood
- Road construction
- Clearing areas for settlements and farming
- Poaching



Mishmi and Tibetan tribes kill hornbills for ornamental use

ANWARUDIN CHOUDHURY

Hunting by local Mishmi and Tibetan tribes in this IBA is a serious threat to the birdlife. Hunting occurs mostly with single barrel shotguns and muzzle-loaders. Organized hunting occurs during winter when parties of hunters move over different parts of the forest in search of larger birds and mammals (Hazarika 2003). Hunting by army personnel for so-called trophies, used to be common in other parts of Arunachal Pradesh, is fortunately low in this area, thanks to the absence of motorable roads in most parts. However, many roads are planned in future which would change the situation. This is an opportunity to conduct environmental education programmes with the Army to sensitize them about India's wildlife protection laws.

In the lower reaches, slash-and-burn (*jhum*) cultivation is a serious problem. Generally, maize and opium are cultivated.

Construction work on two major road projects, Hayuliang to Chaglagaum and Hayuliang to Goiliang, proceeded at a rapid pace and brought about serious damage to the habitat (Hazarika 2003). Both the roads are now complete.

KEY CONTRIBUTORS

Asif Hazarika, Anwaruddin Choudhury.

KEY REFERENCES

- Ali, S. & Ripley, S.D. (1987) *Compact Edition of the Handbook of the Birds of India and Pakistan*. Oxford University Press, New Delhi.
- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- BirdLife International (undated) *Important Bird Areas of Asia: Project Briefing Book*. 103 pp. Unpubl.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books & The Rhino Foundation for Nature in NE India (with support from COA, Taiwan), Guwahati, India. 432 pp.
- Haridasan, K., Borang, A., and Singh, P. (1999) Baseline survey of biodiversity in high priority biologically rich areas of Arunachal Pradesh. State Forest Research Institute, Itanagar.
- Hazarika, A.A. (2003) A survey on the Biome-restricted avifauna of Chaglagaum proposed reserve forest. Report submitted to the Bombay Natural History Society, Mumbai. Pp. 54.
- Menon, V. (2014) *Indian Mammals: A Field Guide*. Hachette Book Publishing India Pvt. Ltd, Gurgaon. Pp. 528.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

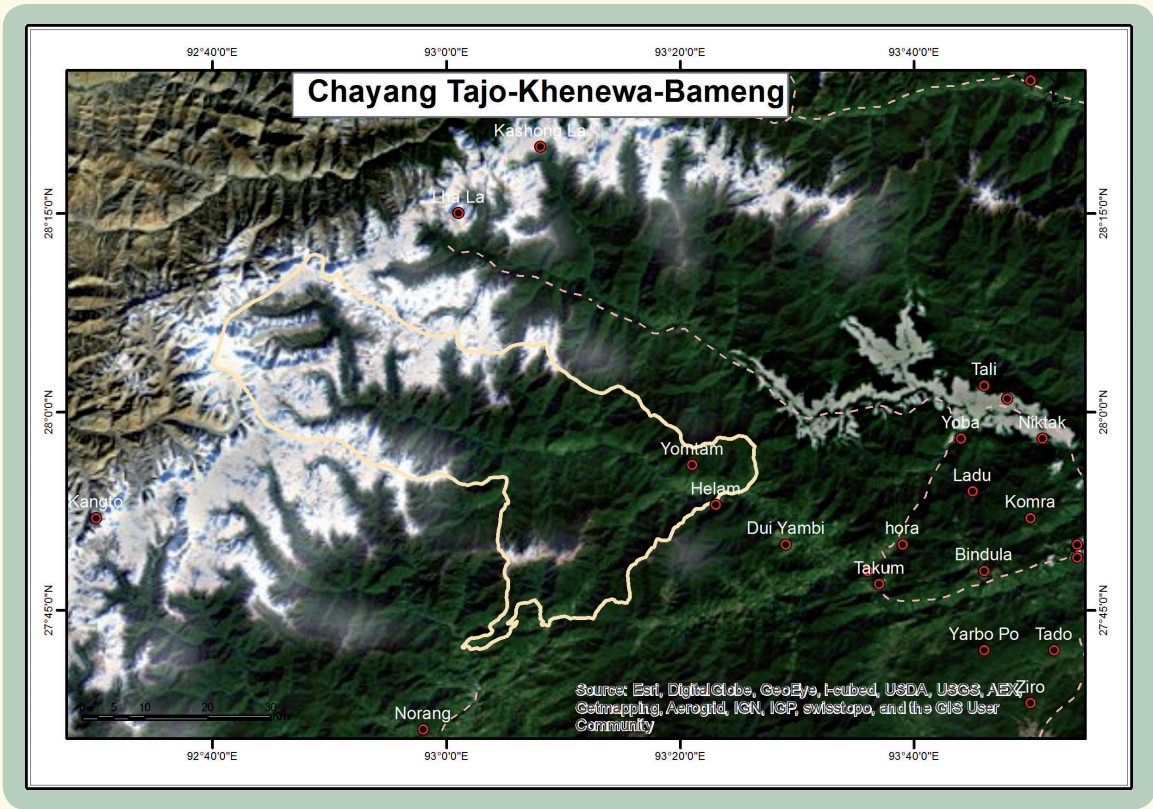
CHAYANG TAJO-KHENEWA-BAMENG

IN-AR-02

IBA Site Code	: IN-AR-02	Rainfall	: 1,500–3,000 mm
Administrative Region : Arunachal Pradesh (State)		Temperature	: Subzero to 30 °C
District	: East Kameng	Biogeographic Zone	: Himalaya
Coordinates	: 27° 36' 19" N, 93° 04' 36" E	Habitats	: Tropical Wet Evergreen Forest, Tropical Semi-evergreen Forest, Sub-tropical Broadleaf and Coniferous Forest, Sub-alpine Dry Scrub, Alpine Moist Scrub
Ownership	: Community, Private		
Area	: c. 2,000 sq. km		
Altitude	: 1,000–5,000 msl		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

Chayang Tajo-Khenewa-Bameng, a high mountain region covering c. 2,000 sq. km in East Kameng district in the Eastern Himalaya, is one of the least known IBAs of Arunachal Pradesh. The area is drained by the Kameng river and its tributaries. The less accessible areas still have excellent forest cover. Owing to its altitudinal variation from 1,000 to 5,000 m, it has faunal and floral elements of the lower, middle, and upper Himalaya. In the lower reaches, Tropical to Subtropical Evergreen Forests occur. Further up, Temperate Broadleaf and Coniferous Forests are seen

and above them are Sub-alpine and Alpine Forests. The high peaks remain snowcapped for the greater part of the year. There are a few high-altitude lakes. The northern boundary is close to the Indian border with Tibet.

The top canopy trees of Tropical Wet Evergreen and Semi-evergreen are *Tetrameles nudiflora* (important for nesting of hornbills), *Terminalia myriocarpa*, *Amoora wallichii*, and *Sterculia villosa*.

Abandoned *jhums* (shifting cultivation) are covered with various species of grass such as *Themeda villosa*, *Saccharum* sp., and *Imperata* sp.



ROHIT NANIMADEKAR

Rufous-necked Hornbill *Aceros nipalensis* is under constant pressure of hunting except in a few protected areas

AVIFAUNA

There may be more than 300 bird species in this IBA. A recent survey in a few select areas revealed the presence of more than 100 species, of which at least 74 were identified (Choudhury 2002).

The area includes three biomes, Sino-Himalayan Subtropical Forest and Sino-Himalayan Temperate Forest, and some high elevation areas forming part of Eurasian

High Montane (Alpine and Tibetan), i.e., Biomes 5, 7, and 8. However information on the avifauna is limited.

Choudhury (2002) has reported three species of pheasants: Temminck's Tragopan *Tragopan temminckii*, Black-breasted Kaleej *Lophura leucomelanos lathami*, and Grey Peacock-Pheasant *Polyplectron bicalcaratum*. None of these are globally Threatened. The Rufous-throated Hill-Partridge *Arborophila rufogularis* is found, while Chestnut-breasted Hill-partridge *Arborophila mandellii*, a globally Threatened species, may also occur. The newly described subspecies of Sclater's Monal *Lophophorus sclateri arunachalensis* (Kumar & Singh 1999) is found between 3,900, and 4,200 m. This subspecies occupies a narrow distribution range from eastern Tawang to east of River Subansiri, where previously the nominate species was thought to occur. Although its main distribution is outside this IBA, it may occur here also (Anwaruddin Choudhury, *in litt.* 2014). More surveys are required.

There are confirmed records of globally Threatened Rufous-necked Hornbill *Aceros nipalensis* and restricted-range Beautiful Sibia *Heterophasia pulchella*. The site lies in Eastern Himalaya Endemic Bird Area (EBA-130) (Stattersfield *et al.* 1998). Presently, only one restricted-range species has been confirmed from this site, but according to

VULNERABLE

Chestnut-breasted Hill-partridge	<i>Arborophila mandellii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch (?)	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hypertythra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Chestnut-breasted Hill-partridge	<i>Arborophila mandellii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hypertythra</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
Broad-billed Warbler (?)	<i>Tickellia hodgsoni</i>

A.U. Choudhury (*pers. comm.* 2003), there would be many more.

This site has been selected as an IBA based on its excellent forest cover and species from three biomes: Eurasian High Montane (Alpine and Tibetan), Sino-Himalayan Temperate Forest, and Sino-Himalayan Subtropical Forest.

OTHER KEY FAUNA

Chayang Tajo-Khenewa-Bameng is difficult to reach, so the large mammal community is still intact in many valleys and forested hills. In the lower reaches, Temminck's Golden Cat *Catopuma temmincki*, Clouded Leopard *Neofelis nebulosa*, and Tiger *Panthera tigris* are found. Leopard *Panthera pardus* has a much wider distribution. In the temperate forest, Red Panda *Ailurus fulgens* is found, while Musk Deer *Moschus chrysogaster* is seen in sub-alpine and alpine regions. Other mountain ungulates are Takin *Budorcas taxicolor*, Goral *Naemorhedus goral*, and Himalayan Serow *Capricornis thar*. The chief forest ungulates are Sambar *Rusa unicolor*, Barking Deer *Muntiacus muntjak*, and Wild Boar *Sus scrofa* (Choudhury 2002).

LAND USE

- Agriculture, both *jhum* and sedentary
- Horticulture
- Forestry

THREATS AND CONSERVATION ISSUES

- Timber operations
- *Jhum* cultivation
- Poaching

There is no officially designated protected area (sanctuary or national park) in this vast tract of the Eastern Himalaya. Large-scale tree felling in the past has already denuded large parts of East Kameng. Between Seppa and Chayang Tajo, there is hardly any primary forest left (Choudhury 2002). *Jhum* cultivation has also contributed to the loss of tree cover over large areas on both sides of the Kameng river. Large stretches of forest, however, are still seen in the higher reaches beyond Chayang Tajo and Lada, as these areas are still inaccessible by road, and *jhum* is also difficult due to the cold climate. However, intensive shifting cultivation was seen near the Seppa area, the district headquarters.

Around Chayang Tajo circle, apart from clearing forests for rice cultivation, the tribals also clear forests to plant palm trees *Arenga* spp., locally known as *Thasae* from which they extract a powdery mass (Kumar & Singh 1999). This, along with bamboo shoots collected in the forest, forms the staple diet of the local people for most part of the year. These plantations are maintained mainly along watercourses.

Poaching is still a major conservation issue as the Bangnis, the main tribe of the area, are wellknown hunters. In fact, they eat the flesh of almost all species of mammals and birds. Sulungs and Mijis inhabit the extreme north and west, respectively. Both these tribes also hunt almost all species for food or for cultural reasons. For instance, hornbills are killed to make ceremonial headdresses from the beak.

As this site is Data Deficient but presumably very rich in flora and fauna, detailed surveys should be conducted. The higher areas, from above Lada to the mountain ridge northwest of Chayang Tajo, should be brought under protection in view of the rich biodiversity and low human population (Choudhury 2002). This area has pheasants, Rufous-necked Hornbill, and many restricted-range species. Among mammals, Takin, Golden Cat *Catopuma temmincki*, Clouded Leopard *Neofelis nebulosa*, and Red Panda *Ailurus fulgens* are found in these almost virgin forests.

There is not much conservation awareness in this area: even the local government emporium sells skins of Capped Langur *Trachypithecus pileata* which is included in Schedule I of the Indian Wildlife (Protection) Act. The skin is mainly used to cover handles of cutting tools, known as *dao*.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Suresh Kumar.

KEY REFERENCES

- Choudhury, A.U. (2002) Biodiversity survey in the upper areas of East Kameng district, Arunachal Pradesh. Final report of phase 1. WWF-India Assam and Arunachal Office, Guwahati. Pp. 12.
- Kumar, S. and Singh, P. (1999) A Study of Pheasant Distributions in Arunachal Pradesh, Eastern Himalayas, India. Wildlife Institute of India, Dehradun. Pp. 52.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

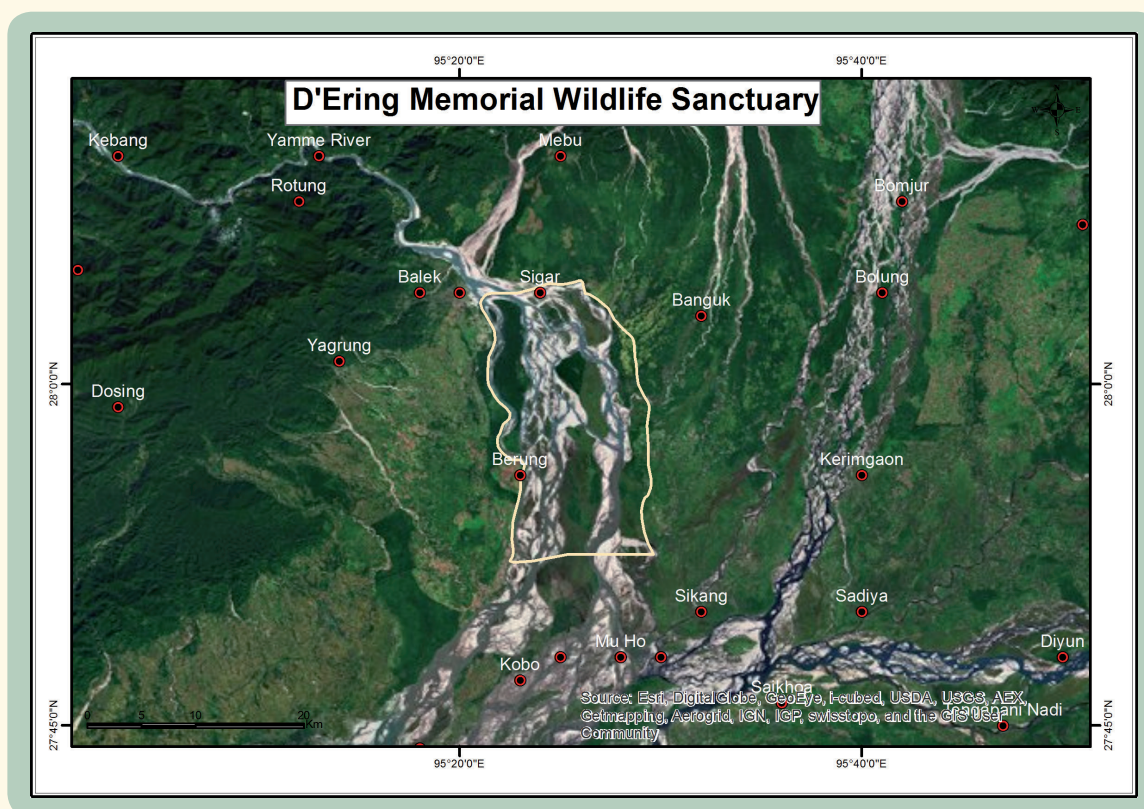
D'ERING MEMORIAL WILDLIFE SANCTUARY

IN-AR-03

IBA Site Code	: IN-AR-03	Altitude	: 150 msl
Administrative Region	: Arunachal Pradesh	Rainfall	: >2,000 mm
(State)		Temperature	: 7 °C to 40 °C
District	: East Siang	Biogeographic Zone	: Himalaya
Coordinates	: 27° 56' 16" N, 95° 26' 45" E	Habitats	: Riverine Vegetation, Tropical Grassland, Tropical Mixed Deciduous Forest
Ownership	: State		
Area	: 19,000 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 131: Assam Plains), A4i (1% biogeographical population)

PROTECTION STATUS : Wildlife Sanctuary, established August, 1978.



GENERAL DESCRIPTION

D'Ering Memorial Wildlife Sanctuary lies on the border of Assam and Arunachal Pradesh in the flood plain between Rivers Siang and Sibia. It is located c. 16 km southeast of Pasighat town. About 80% of the sanctuary is covered with grassland, and the rest is riverine forest patches with mixed bamboo and secondary forests. Streams and channels intersect the whole sanctuary, and there are small to medium waterbodies that provide good nesting sites for birds. The area is generally rich in grassland birds.

Divided into three ranges, Anchalthat, Sibiamukh, and Borguli, the sanctuary has semi-evergreen forests, fast flowing river channels and river islands, marshes, and

extensive grasslands (Barman 1996). The main grass species are *Saccharum spontaneum*, *S. arundinaceum*, *Neyraudia reynaudiana*, and sedges such as *Cyperus* sp. The common trees are *Terminalia myriocarpa*, *Dillenia indica*, *Bombax ceiba*, *Lagerstroemia speciosa*, and *Albizia* sp. (Barman 1996).

AVIFAUNA

More than 150 species of birds have been recorded, with several migratory species (B.B. Bhatt, *pers. comm.* 2002), while Barman (1996) reported 113 species. Recent surveys indicate that the count is more than 200 species (A.U. Choudhury, *pers. comm.* 2014). This IBA is one of the

most important grassland habitats of the Bengal Florican *Houbaropsis bengalensis*. Several individuals were observed in 2012–2013 (Tashi Mize & A.U. Choudhury, *pers. comm.* 2014). While Rahmani *et al.* (1990) estimated a population of 20 floricans, Choudhury (2002b) put the number at 18–20. Near Bomjir, in Dibang RF, which adjoins D'Ering, three floricans, one male and two females, were observed near a buffalo camp on March 8, 1993 and a study carried out in this complex revealed an estimated population of 36–45 Bengal Florican: 18–22 in Dibang RF, 18–22 in D'Ering WLS (Choudhury 1996). However, due to rampant poaching, the population has declined to about 20–25 birds (G. Narayan, *in litt.* 2003).

The White-winged Duck *Asarcornis scutulata* is found in small numbers. Accurate estimates of the population are difficult (Choudhury 2002a).

Jerdon's Babbler *Chrysomma altirostre* is a globally Threatened species confined to the tall, wet grasslands of the Terai and the Brahmaputra floodplains. This IBA is an important site as the extreme northeastern range of Jerdon's Babbler. Ali & Ripley (1983) called subspecies *griseogularis* of *Chrysomma altirostre* as Hume's Babbler.

Owing to the presence of extensive wet grasslands in this IBA, the population of the Swamp Francolin *Francolinus gularis* is quite good (Singh 1995).

Numerous channels formed by the River Siang constitute the main waterfowl habitat. These lotic wetlands attract thousands of waterfowl, mostly ducks. Barman (1996) has listed 14 species of Anatidae. However, due to the swampy nature of the terrain, movement is extremely restricted, so a correct estimation of numbers is extremely difficult. Possibly, more than 20,000 waterfowl visit these wetlands and channels in a year.

CRITICALLY ENDANGERED

Slender-billed Vulture	<i>Gyps tenuirostris</i>
White-rumped Vulture	<i>Gyps bengalensis</i>
Bengal Florican	<i>Houbaropsis bengalensis</i>

ENDANGERED

White-winged Duck	<i>Asarcornis scutulata</i>
Black-bellied Tern	<i>Sterna acuticauda</i>

VULNERABLE

Swamp Francolin	<i>Francolinus gularis</i>
Lesser Adjutant	<i>Leptoptilos javanicus</i>
Pallas's Fish-eagle	<i>Haliaeetus leucoryphus</i>
Greater Spotted Eagle	<i>Clanga clanga</i>
Indian Skimmer	<i>Rynchops albicollis</i>
Jerdon's Babbler	<i>Chrysomma altirostre</i>
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>

NEAR THREATENED

Spot-billed Pelican	<i>Pelecanus philippensis</i>
Himalayan Griffon	<i>Gyps himalayensis</i>
Cinereous Vulture	<i>Aegypius monachus</i>

ENDEMIC BIRD AREA 131: ASSAM PLAINS

Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>
---------------------------	----------------------------------



DHRITIMAN MUKHERJEE

In the early 90s, it was estimated that nearly 20 territorial males of Bengal Florican were found in this IBA. Detailed surveys are now required

Recent studies in 2012 by a team from Rajiv Gandhi University (Arunachal) show that a few individuals of five species of vultures are occasionally seen in this IBA. They are the White-rumped *Gyps bengalensis*, Slender-billed *G. tenuirostris*, Himalayan Griffon *G. himalayensis*, and Cinereous *Aegypius monachus*.

OTHER KEY FAUNA

This IBA serves as a corridor for the migration of Asiatic Elephant *Elephas maximus*. Tiger *Panthera tigris* was the major carnivore a decade ago but very few survive today. Wild Boar *Sus scrofa*, Hog Deer *Axis porcinus*, Sambar *Rusa unicolor* and Barking Deer or Indian Muntjak *Muntiacus muntjak* are found here. The sanctuary is also an important habitat for the endangered Wild Water Buffalo *Bubalus arnee* (Choudhury 2010).

LAND USE

- Nature reserve

THREATS AND CONSERVATION ISSUES

- Hunting
- Inadequate staff
- Cattle grazing
- Fishing

The sanctuary was devastated by a flash flood in August, 2000 due to a burst dam in Tibet. Most of the grassland was



ASAD R. RAHMANI

About 80% of the sanctuary is covered with grassland, but trees are invading some areas which should be controlled by habitat management to keep the grassland suitable for Bengal Florican

covered with sand immediately after the flood and has not yet recovered. Furthermore, rampant hunting and cattle grazing are destroying the habitat. Collection of thatching material may not be very detrimental if regulated. Tree felling is quite common in some parts like Borguli, Jopong, and Balun. A decade ago, this sanctuary was home to Tiger as well, whose roars were often heard in the nearby villages. But hunting and poaching have left not even a single tiger today. During the dry season, gangs of poachers set fire to the grassland to drive out the helpless animals which emerge from the burning grassland, only to be shot or snared. This sanctuary urgently needs support in the form of infrastructure and facilities to forest staff, and a good officer committed to rehabilitating the sanctuary.

KEY CONTRIBUTORS

Anwaruddin Choudhury, M. Firoz Ahmed, Goutam Narayan, Kulojyoti Lakhar, Maksam Tayeng.

KEY REFERENCES

- Ali, S. & Ripley, S.D. (1983) *Handbook of the Birds of India and Pakistan*. Compact Edition. Oxford University Press, Bombay.
- Barman, R. (1996) Birds of D'Ering Memorial Wildlife Sanctuary, Arunachal Pradesh. *Newsletter for Birdwatchers* 36: 47–49.
- Choudhury, A.U. (1996) Survey of the White-winged Wood Duck and Bengal Florican in Tinsukia district and adjacent areas of Assam and Arunachal Pradesh. The Rhino Foundation for Nature in NE India, Guwahati.
- Choudhury, A.U. (2002a) Conservation of the Whitewinged Wood Duck *Cairina scutulata* in India. In: Rahmani, A.R. and Ugra, Gayatri (Eds) *Birds of Wetlands and Grasslands: Proceedings of the Sâlim Ali Centenary Seminar on Conservation of Avifauna of Wetlands and Grasslands*. Bombay Natural History Society, Mumbai. Pp. x + 228.
- Choudhury, A.U. (2002b) Current Status and Conservation of the Bengal Florican *Houbaropsis bengalensis* in northeast India. Pp. 90–94. In: Rahmani, A.R. and Ugra, Gayatri (Eds) *Birds of Wetlands and Grasslands: Proceedings of the Sâlim Ali Centenary Seminar on Conservation of Avifauna of Wetlands and Grasslands*. Bombay Natural History Society, Mumbai. Pp. x + 228.
- Choudhury, A.U. (2010) *The Vanishing Herds: the Wild Water Buffalo*. Gibbon Books and The Rhino Foundation for Nature in NE India, Guwahati. 184 pp.
- Rahmani, A.R., Narayan, G., Rosalind, L., Sankaran, R., and Ganguli-Lachungpa, U. (1990) Status of the Bengal Florican in India. *JBNHS* 88: 349–375.
- Singh, P. (1995) Occurrence of Swamp Partridge *Francolinus gularis* (Temminck) in Arunachal Pradesh. *JBNHS* 92(3): 419.

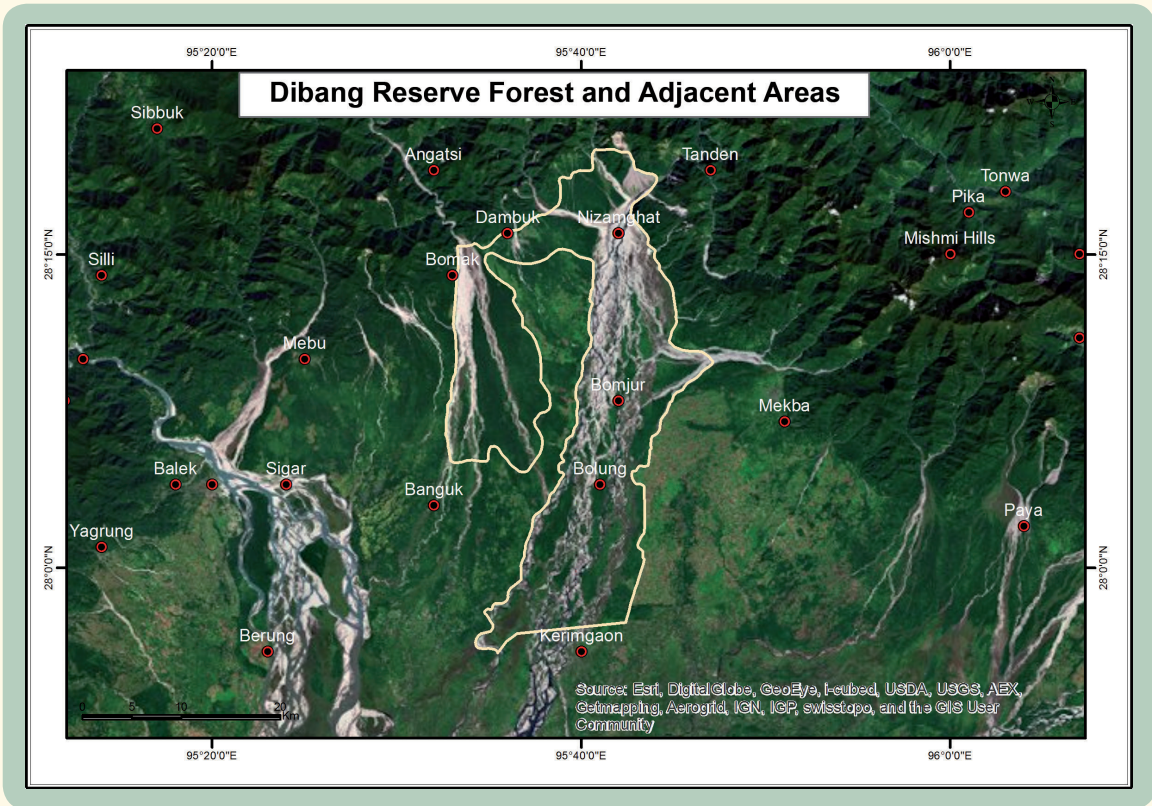
DIBANG RESERVE FOREST AND ADJACENT AREAS

IN-AR-04

IBA Site Code	: IN-AR-04	Area	: 20,200 ha
Administrative Region (State)	: Arunachal Pradesh	Altitude	: 100–400 msl
District	: Lower Dibang Valley	Rainfall	: 3,500–10,000 mm
Coordinates	: 28° 06' 00" N, 95° 37' 30" E	Temperature	: 6 °C to 32 °C
Ownership	: State, Community	Biogeographic Zone	: Himalaya
		Habitats	: Tropical Wet Evergreen Forest, Tropical Grassland

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 131: Assam Plains)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

This IBA is often confused with Dibang Wildlife Sanctuary, also an IBA, because of the similarity in the first name. While the sanctuary covers higher mountainous areas of the Mishmi Hills along the India-China international border, this IBA is in flat and gently sloping terrain, in the lower reaches of the Dibang river up to the Assam-Arunachal Pradesh interstate border. The present IBA includes parts of Dibang Reserve Forest (RF), Kerim RF, and the whole of Sirkee Proposed RF as mapped by Choudhury (1996). It also includes the entire riverbed of the Dibang, which is at places up to 8 km wide, with sandy and grassy tracts. This IBA forms part of

Endemic Bird Areas 13.

Tall wet savannah grassland occurs on the islets of the Dibang river, while the forest away from the river is mostly Tropical Wet Evergreen. The main forested areas are between Dambuk-Bomjir and Bijari.

AVIFAUNA

At least 150 bird species have been listed, but the total diversity may be more than 300 species (A.U. Choudhury, *pers. comm.* 2003). This IBA is known for its rich assemblage of threatened birds, including the Lesser Adjutant *Leptoptilos javanicus*, Swamp Francolin *Francolinus gularis*, Black-breasted Parrotbill *Paradoxornis flavirostris*,



DHRITIMAN MUKHERJEE

Dibang Reserve and adjoining grasslands are extremely important for Bengal Florican

Jerdon's Babbler *Chrysomma altilore* and Marsh Babbler *Pellorneum palustre* (A.U. Choudhury, pers. comm. 2003), White-winged Duck *Asarcornis scutulata* (Choudhury 1996), and the Bengal Florican *Houbaropsis bengalensis* (Choudhury 1998). The first record of the Spot-billed Pelican *Pelecanus philippensis* in Arunachal Pradesh was from the northern edge of this IBA, not far from Mehao IBA (Choudhury 2000). This is also an important staging area for migratory birds and a new migration route of the Common Crane *Grus grus* was discovered here (Choudhury 1994).

OTHER KEY FAUNA

Among the major mammals are the Tiger *Panthera tigris* (now very rare), Asiatic Elephant *Elephas maximus*, Asiatic Wild Water Buffalo *Bubalus arnee* (= *bubalis*), and Hog Deer *Axis porcinus* (Choudhury 2003).

LAND USE

- Forestry
- Grazing
- Fishing
- Agriculture

THREATS AND CONSERVATION ISSUES

- Encroachment
- Poaching
- Grazing
- Collection of thatching material
- Felling of trees

The major issue is encroachment and dereservation for human settlement. As more and more people seek flat land, there is tremendous pressure on the area. Poaching, grazing of cows and buffaloes, collection of thatching, and felling of trees are other major issues. The site was recommended as

CRITICALLY ENDANGERED

White-rumped Vulture	<i>Gyps bengalensis</i>
Slender-billed Vulture	<i>Gyps tenuirostris</i>
Bengal Florican	<i>Houbaropsis bengalensis</i>

ENDANGERED

White-winged Duck	<i>Asarcornis scutulata</i>
-------------------	-----------------------------

VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
Swamp Francolin	<i>Francolinus gularis</i>
Marsh Babbler	<i>Pellorneum palustre</i>
Jerdon's Babbler	<i>Chrysomma altilore</i>
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>

ENDEMIC BIRD AREAS 131: ASSAM PLAINS

Marsh Babbler	<i>Pellorneum palustre</i>
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>

a protected area to be named the Dibang River National Park (Choudhury 1996).

KEY CONTRIBUTORS

Anwaruddin Choudhury, Nur Hussain, Dilip Handique, Leto Mili.

KEY REFERENCES

- Choudhury, A.U. (1994) A new Crane migration route discovered. *Asian Wetland News* 7(1): 18.
- Choudhury, A.U. (1996) Survey of the White-winged Wood Duck and Bengal Florican in Tinsukia district and adjacent areas of Assam and Arunachal Pradesh. The Rhino Foundation for Nature in NE India, Guwahati. 82 pp.
- Choudhury, A.U. (1998) The Bengal Florican *Eupodotis bengalensis* Gmelin 1789 in Dibang Valley District of Arunachal Pradesh. *JBNHS* 95(2): 342.
- Choudhury, A.U. (2000) *The Birds of Assam*. Gibbon Books and WWF-India, NE Regional Office, Guwahati.
- Choudhury, A.U. (2003) *The Mammals of Arunachal Pradesh*. Regency Publications, New Delhi.

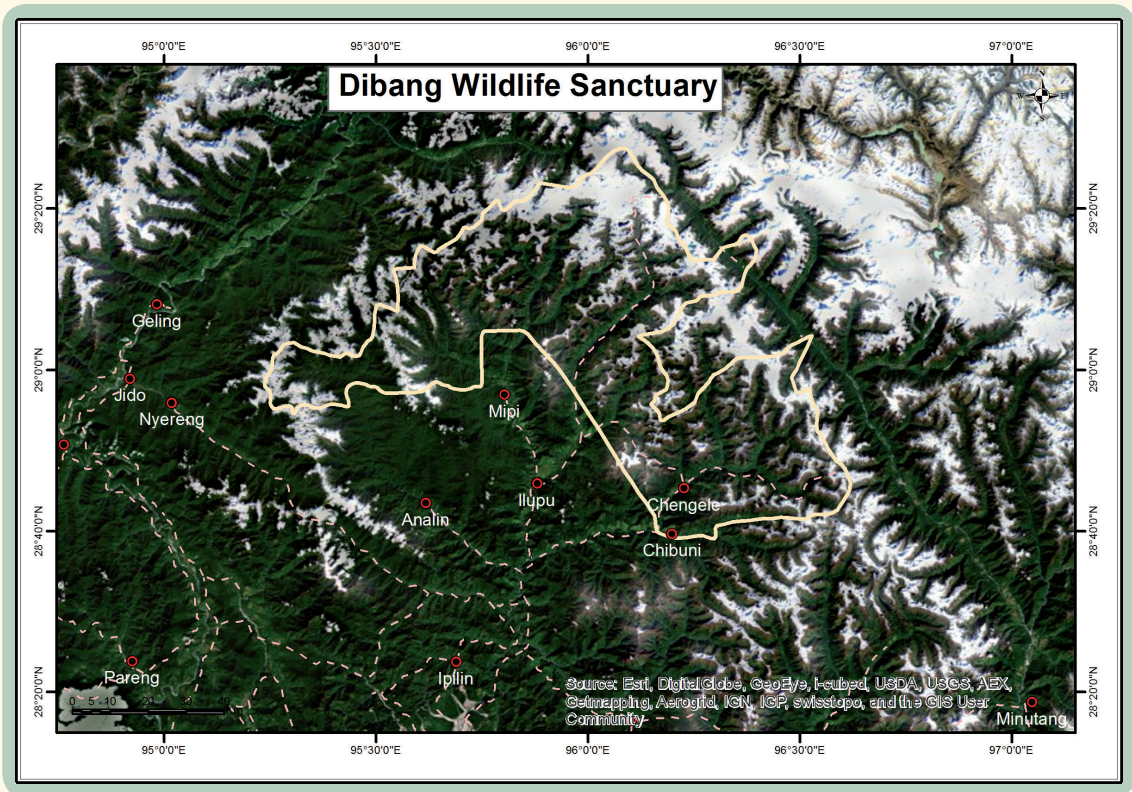
DIBANG WILDLIFE SANCTUARY

IN-AR-05

IBA Site Code	: IN-AR-05	Altitude	: 2,000–5,356 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >2,000 mm
District	: Dibang Valley	Temperature	: 0 °C to 24 °C
Coordinates	: 29° 15' 31" N, 96° 12' 03" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Sub-tropical Broadleaf Hill Forest, Himalayan Moist Temperate Forest, Sub-alpine Forest, Alpine Moist Scrub
Area	: 414,900 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Wildlife Sanctuary, established November, 1991.



GENERAL DESCRIPTION

Dibang Wildlife Sanctuary is often confused with Dibang Reserve Forest, also an IBA. The latter covers the lower reaches of the Dibang river up to Assam-Arunachal Pradesh interstate border. These IBAs are not contiguous. Dibang WLS lies in the higher mountainous areas of the Mishmi Hills along the Indo-China international border. Part of this IBA also falls under Dibang-Dihang Biosphere Reserve.

This large IBA includes the forests and snow-covered peaks of the Mishmi Hills and is the source of the Dibang river and many of its main tributaries. The area is entirely mountainous with deep gorges. The vegetation ranges from Temperate Broadleaf and Temperate Coniferous Forests to Sub-alpine and Alpine Scrub, while the peaks are barren

and remain snow-capped for the greater part of the year (A. U. Choudhury, *pers comm.* 2003).

A large part of this IBA is remote and inaccessible, with a long border with Tibet. Very few studies have been conducted in the area (Kaul *et al.* 1995, Singh 1999), but the birds and mammals have been surveyed (Choudhury 2003a).

AVIFAUNA

This large IBA with difficult terrain needs many surveys for a complete assessment of its bird diversity. Four globally Vulnerable species have been recorded so far, the Chestnut-breasted Hill-partridge *Arborophila mandellii*, Beautiful Nuthatch *Sitta formosa* (Singh 1994), Blyth's Tragopan *Tragopan blythii* and Slater's Monal *Lophophorus slateri*



DHRITIMAN MUKHERJEE

The Dibang forest in Mishmi Hills is the catchment area of Dibang River therefore extremely important for people and biodiversity

(Kaul *et al.* 1995). Ward's Trogon *Harpactes wardi*, a Near Threatened and restricted-range species, was also recorded in the area (Singh 1994). However, many more globally Threatened bird species are likely to occur.

Common Cranes *Grus grus* that migrate along the Dibang river (Choudhury 1994) eventually cross Dibang WLS on the way to Tibet. Among other noteworthy species recorded are the Golden Eagle *Aquila chrysaetos*, Himalayan Monal *Lophophorus impejanus* and Himalayan Griffon *Gyps himalayensis*.

OTHER KEY FAUNA

Among the major mammals are the Snow Leopard *Panthera uncia*, Leopard *Panthera pardus*, Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Alpine Musk Deer *Moschus chrysogaster*, and Takin *Budorcas taxicolor* (Choudhury 2003b).

LAND USE

- Nature conservation
- Forestry

THREATS AND CONSERVATION ISSUES

- Poaching
- Collection of firewood
- Felling of trees
- Proposed mega hydroelectric projects

Poaching, including trapping of galliforms, collection of firewood, and felling of trees are some of the major issues. In the near future, the massive hydroelectric projects proposed on the Dibang river and its tributaries will be a major issue

VULNERABLE

Chestnut-breasted Hill-partridge	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Slater's Monal	<i>Lophophorus sclateri</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon	<i>Harpactes wardi</i>
---------------	------------------------

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Chestnut-breasted Hill-partridge	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Slater's Monal	<i>Lophophorus sclateri</i>
Ward's Trogon	<i>Harpactes wardi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>

in the whole Dibang Valley area, as these will have a serious impact on the environment.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Rahul Kaul, Pratap Singh.

KEY REFERENCES

- Choudhury, A.U. (1994) A new Crane migration route discovered. *Asian Wetland News* 7(1): 18.
- Choudhury, A.U. (2003a) The Rhino Foundation for Nature in NE India: Annual Report 2002-03. *The Rhino Foundation for Nature in NE India Newsletter* 5: 1–5.
- Choudhury, A.U. (2003b) *The Mammals of Arunachal Pradesh*. Regency Publications, New Delhi.
- Kaul, R., Raza, R., and Kalsi, R. (1995) Pheasant surveys in Arunachal Pradesh, India. In: Jenkins, D. (Ed.) (1995) *Ann. Rev. WPA 1993/94*. World Pheasant Association, Reading, UK. Pp. 28–34.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Singh, P. (1999) Bird survey in selected localities of Arunachal Pradesh, India. Wildlife Institute of India, Dehradun. 92 pp.

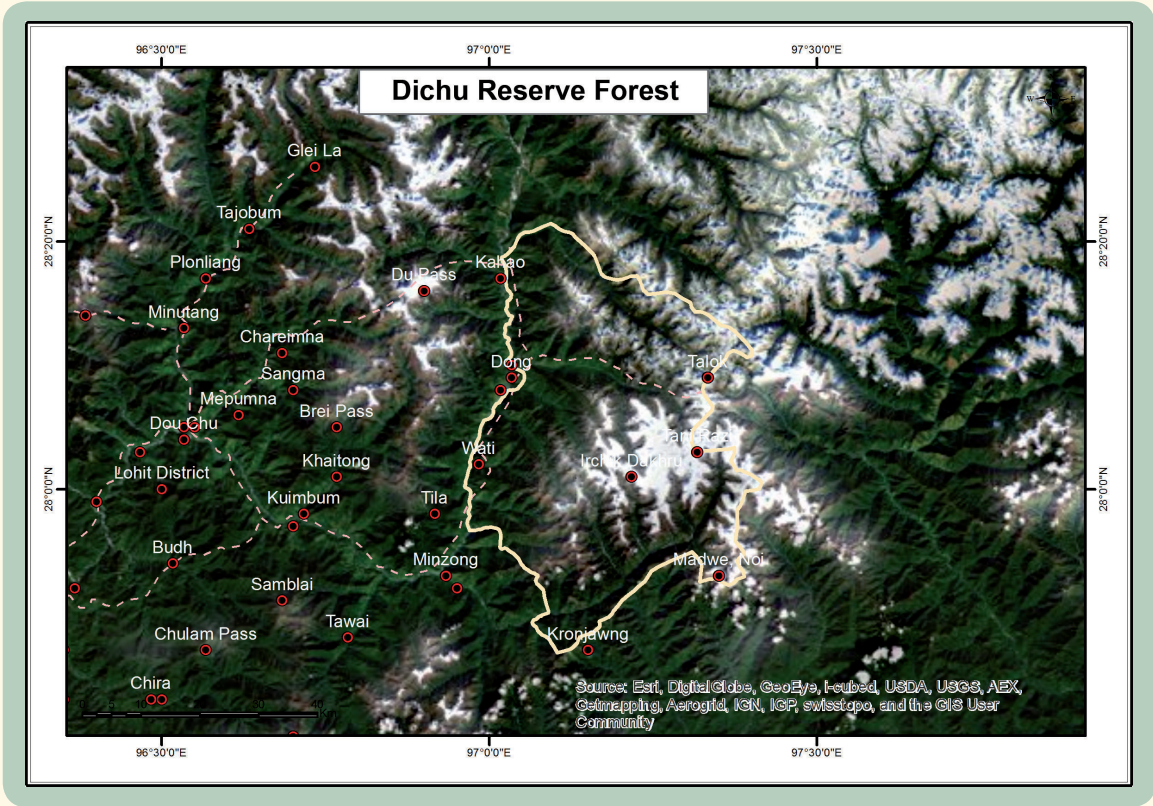
DICHU RESERVE FOREST

IN-AR-06

IBA Site Code	: IN-AR-06	Rainfall	: Not available
Administrative Region (State)	: Arunachal Pradesh	Temperature	: 0 °C to 32 °C
District	: Anjaw	Biogeographic Zone	: Himalaya
Coordinates	: 28° 11' 60" N, 97° 20' 60" E	Habitats	: Sub-tropical Dry Evergreen Forest, Sub-tropical Broadleaf and Coniferous Forests, Himalayan Moist Temperate Forest, Sub-alpine Dry Scrub, Alpine Dry Scrub
Ownership	: State		
Area	: 179,200 ha		
Altitude	: 1,100–3,800 msl		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS : A Reserve Forest, not officially protected.



GENERAL DESCRIPTION

The Dichu Reserve Forest lies in the northeastern part of Anjaw district of Arunachal Pradesh, and covers an area of 179,200 ha. This is the easternmost part of India (Arunachal Pradesh), forming a tri-junction with Tibet and Myanmar. The area is well recognized as the gateway for plant and animal migration between India-Tibet, India-Myanmar, and the Malayan region. The vast stretch of Dichu forest is practically undisturbed and has been preserved intact for ages. Species diversity is at its best in this forest (Haridasan *et al.* 1999). The Dichu Valley runs roughly east-west, flanked on both sides by high peaks with steep slopes.

The northern ridges are part of the McMahon line. Along the course of the Dichu river valley, where it joins the Lohit river (Negichu) in the west, there is a gradual ascent towards its source in Myanmar. In Indian territory, eight rivulets drain into Dichu on the northern side, whereas on the southern side seven nullahs or rivulets drain into the Dichu river. These are perennial, snow-fed rivers, turbulent and difficult to navigate in many places. However, in flat areas, the flow is gentle. The Dichu river, after flowing for about 50 km westward, drains into Negichu river, after which it is known as the Lohit. The river continues to flow southward. Except for a narrow belt near Dichu, beyond Kahao, where



ANWARUDDIN CHOUDHURY

Dichu Reserve Forest provides habitats for 266 bird species at different altitudes

the land appears somewhat plain and plateau-like, the river course has steep slopes and high peaks. Near Jachup, the valley is very wide, like a meadow. The hills are clothed with dense vegetation of varying types of broadleaf and coniferous species. It is interesting to see large sheets of snow in the higher reaches of the meandering river. The climate of the area is cool temperate type, though the areas near Kahao are slightly warmer than Hotspring and Jachup, where conditions are chilly. The maximum temperature in summer often goes up to 32 °C and the minimum falls below freezing point in winter. Due to lack of infrastructure, there is no meteorological observatory in this place. The nearest data collection station is at Walong. The climate changes drastically towards more wet conditions around Melinja. Areas beyond Melinja experience heavy snowfall during winter.

In the reserve forest, there is very little human habitation. The circle headquarters, Kibithoo, is the nearest administrative centre. The inhabitants in the nearby villages are of Buddhist and Tibetan origin. Besides the original inhabitants, a population worth mentioning is that of Nepali labourers. The local people in Kahao village practice a more settled agriculture, using terrace cultivation with well-developed irrigation. Some villagers of the Mishmi tribe go on week-long hunting trips to the interior hills for meat, hides, skulls, and other trophies. They also collect wild medicinal plants (Haridasan *et al.* 1999).

Dichu has one of the last remaining extensive forest covers in India. Haridasan *et al.* (1999) identified seven forest types in this area, Pine Forest, Eastern Himalayan Moist Temperate Forest, Temperate Broadleaf Forest, Temperate Coniferous, Mixed Coniferous Forest, Alpine Forest, and grassland.

AVIFAUNA

A total of 266 bird species have been recorded so far (Hazarika 2003). Among them, the record of Elliot's Laughingthrush *Garrulax elliotii* near Hotspring (3,200 msl) on September 15, 1994 is noteworthy (Singh 1994).

This appears to be the first record of the species for the Indian subcontinent.

This site covers three biomes: Biome 5 (Eurasian High Montane – Alpine and Tibetan), Biome 7 (Sino-Himalayan Temperate Forest), and Biome 8 (Sino-Himalayan Subtropical Forest). These biome types have their corresponding bird species. For example, BirdLife International (undated) has identified 48 species in Biome 5. Hazarika (2003) listed 10 species from this biome. In Biome 7, Birdlife International listed 112 species, of which 74 species are found at this site. Similarly, in Biome 8, of the 95 species listed by BirdLife International, 59 have been seen here. This proves that the site is a very good representative of the extant natural forest of northeast India.

Besides biome species, many globally Threatened and restricted-range species are also present here. The area is included in the Eastern Himalaya Endemic Bird Area.

Hazarika (2003) claims to have seen two groups of Himalayan Monal *Lophophorus impejanus* near a place called Mesai. According to Ali & Ripley (1987), this pheasant is replaced in the eastern Himalaya by Sclater's Monal *Lophophorus sclateri*. Singh (1994) recorded it from two sites in Arunachal Pradesh: Mago in the western portion and Malinye in east Arunachal, which are, however, far from this IBA. Choudhury (2009) confirmed with a specimen record the presence of *L. impejanus* in the area.

Another bird of interest is the Pale-capped or Purple Wood-pigeon *Columba punicea*, of which two flocks were seen in southern Dichu (Hazarika 2003).

OTHER KEY FAUNA

Due to its inaccessibility, the forest is well preserved, and is a true representation of climax vegetation. This is the abode of temperate zone mammals such as Red Panda *Ailurus fulgens*, Asiatic Black Bear *Ursus thibetanus*, Red Goral *Naemorhedus baileyi*, Serow *Capricornis* sp., Musk Deer *Moschus* sp. and Takin *Budorcas taxicolor*.

VULNERABLE

Pale-capped Pigeon	<i>Columba punicea</i>
Rusty-throated Wren-babbler	<i>Spelaornis badeigularis</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon	<i>Harpactes wardi</i>
Rufous-throated Wren-Babbler	<i>Spelaornis caudatus</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Mishmi Wren-babbler	<i>Spelaornis badeigularis</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>



RAMKI SRINEEVASAN

Rufous-throated Wren-babbler *Spelaeornis caudatus* is one of the endemic birds of the Eastern Himalaya. Not much is known about its ecology

Other important species recorded in the area are Barking Deer *Muntiacus muntjak* and Leopard *Panthera pardus*. Snow Leopard *Panthera uncia* is reported at Melinja, at about 2,000 msl (Haridasan *et al.* 1999), but this needs confirmation. Presence of Gongshan Muntjac *Muntiacus gongshanensis* and Leaf Muntjac *M. putaoensis* have been confirmed in the area recently (Choudhury 2013).

LAND USE

- Forestry
- Agriculture

THREATS AND CONSERVATION ISSUES

- Collection of medicinal plants and other Non Timber Forest Produce
- Poaching
- Slash and burn agriculture in southern Dichu Valley

The Dichu Valley is rich in natural resources. Some of these are harvested for immediate returns, while others are wild precursors of economically important cultivated plants that could provide a wide gene pool for the improvement of cultivated or crossbred varieties.

There is no significant human habitation within the reserve forest. The local people visit the forest particularly for hunting, from the west and south.

KEY CONTRIBUTORS

Asif Hazarika, Anwaruddin Choudhury, K. Haridasan, Pratap Singh, Asham Borang.

KEY REFERENCES

- Ali, S. and Ripley, S.D. (1987) *Compact Edition of the Handbook of the Birds of India and Pakistan*. Oxford University Press, New Delhi.
- BirdLife International (undated) *Important Bird Areas (IBAs) of Asia*. Project Briefing Book. Pp. 103. Unpubl.
- Choudhury, A.U. (2009) New easterly locations of Impeyan Monal *Lophophorus impejanus* from Arunachal Pradesh. *Indian Birds* 5(6): 183–184.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- Haridasan, K., Borang, A., and Singh, P. (1999): Baseline survey of biodiversity in high priority biological rich areas of Arunachal Pradesh. State Forest Research Institute, Itanagar.
- Hazarika, A.A. (2003) A study on the biome restricted avifauna of Ditchu reserved forest. Report submitted to the Bombay Natural History Society, Mumbai. Pp. 59.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail*. 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, UK. Pp. 846.

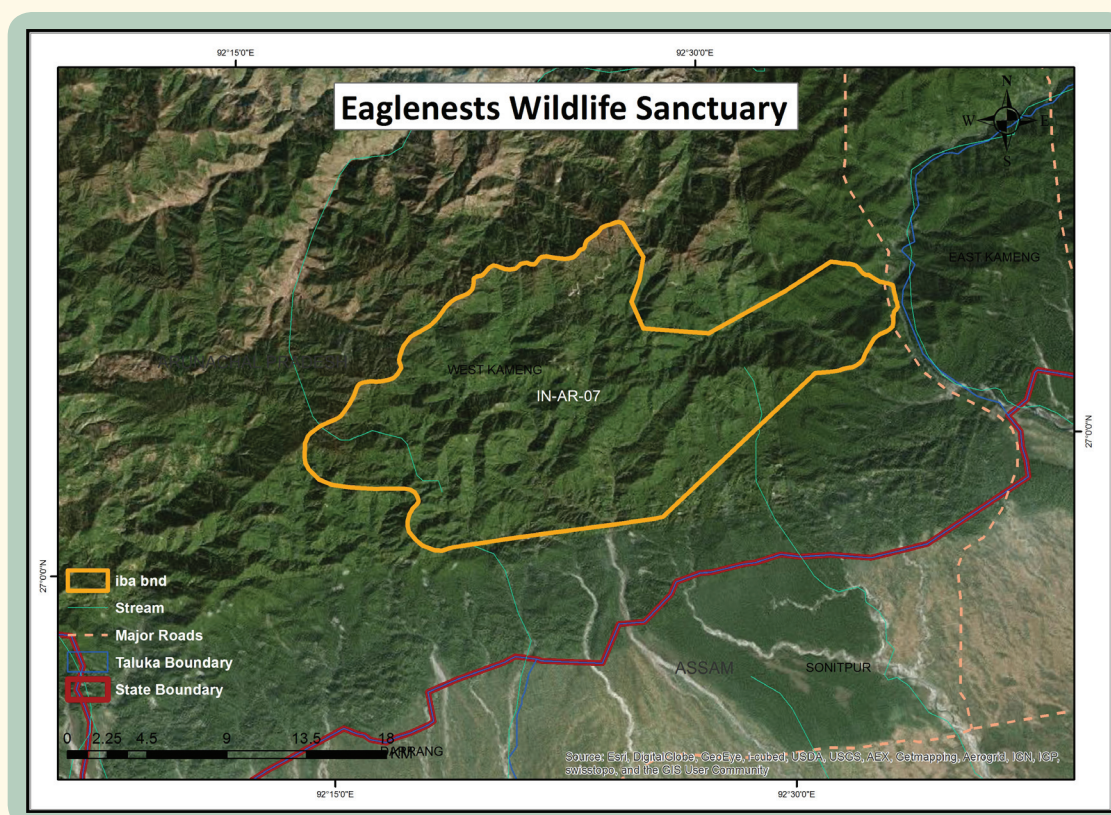
EAGLENEST WILDLIFE SANCTUARY

IN-AR-07

IBA Site Code	: IN-AR-07	Altitude	: 200–3,200 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >3,000 mm
District	: West Kameng	Temperature	: 4 °C to 30 °C
Coordinates	: 27° 08' 60" N, 92° 21' 47" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Sub-tropical Evergreen, Tropical Wet Evergreen, Montane Wet Temperate and Sub-alpine Forests
Area	: 21,700 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Wildlife Sanctuary, established October, 1989.

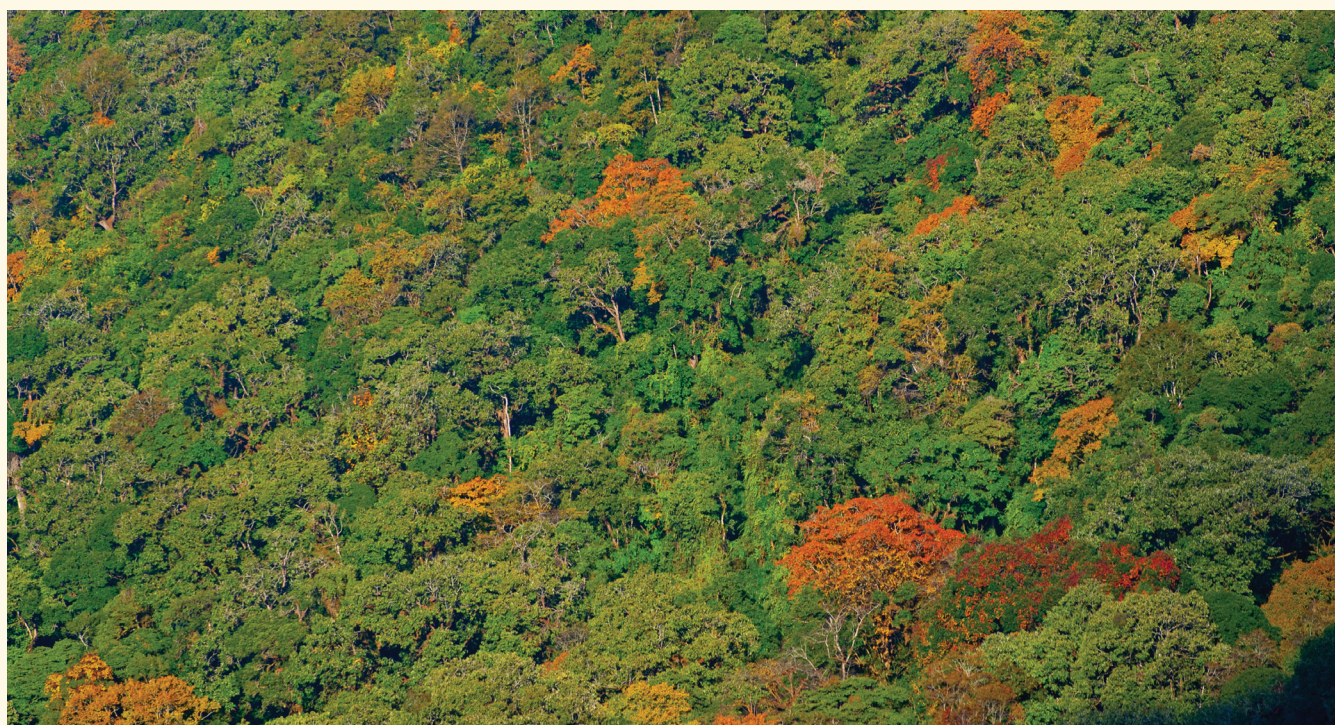


GENERAL DESCRIPTION

Eaglenest (or Eagle's Nest) Wildlife Sanctuary (ENS) and Sessa Orchid Sanctuary (SOS, now treated as a separate IBA IN-AR-32) are in Kameng district, Arunachal Pradesh, in northeast India. Eaglenest (217 sq. km) was notified as a protected area in 1989. The Kameng river and its tributaries (Tipi and Sessa) drain the area. There are a number of small natural waterbodies on the Piri La ridge at 2,600–2,900 m, which range from tiny pools to lakes of 0.2 ha. The annual rainfall varies from <1,500 mm on the northern slopes to >3,000 mm on the southern slopes of the IBA. Heavy snowfall is experienced in winter on Piri La, while it is medium to low in other areas (especially above

2,000 m, occasionally down to 1,800 m). There are diverse habitats because of the great altitudinal range. Tropical Wet Evergreen and Semi-evergreen Forest occur in the southern parts of the sanctuary, especially in the river valleys and gorges, mainly below 900 m.

The forest canopy includes tree species such as *Tetrameles nudiflora* (important for nesting of hornbills), *Terminalia myriocarpa*, *Amoora wallichii*, and *Duabanga sonneratioides*. The middle layer includes *Eugenia jambolana*, *Premna benghalensis*, *Albizia procera*, and *Macaranga denticulata*. Broadleaf Sub-tropical Forest, dominated by various oak species, occurs at 800–1,900 m. Coniferous Sub-tropical Forest, dominated by *Pinus roxburghii*, *P. wallichiana*,



DHRTMAN MUKHERJEE

Eaglenest is one of the well-protected areas of Arunachal Pradesh and extremely popular amongst birdwatchers

and *P. kesiya*, occurs at 1,000–1,800 m, especially in areas receiving less rainfall. Broadleaf Temperate Forest, dominated by Oak, Magnolia, and Rhododendron, occurs at 1,800–2,800 m. Coniferous Temperate Forest, dominated by *Abies spectabilis*, *A. delavayi*, and *Taxus baccata*, is found at 2,800–3,200 m. Abandoned *jhums* (areas of slash-and-burn cultivation) are covered with grasses such as *Themeda villosa*, *Saccharum procerum*, and *Imperata cylindrica*, and various shrubs. There are also large clumps of bamboo, especially *Arundinaria* sp. (at 1,800–2,750 m), *Dendrocalamus hamiltonii*, *Semiarundinaria pantlingi* (at 2,700–2,900 m near Eaglenest pass), *Thamnocalamus aristatus* (above 2,700 m), and *T. spathiflorus* (over 3,050 m on Piri La ridge).

AVIFAUNA

A total of 353 species of birds have been recorded from the Eaglenest and Sessa sanctuaries, but more than 400 are likely to occur (Choudhury 2003).

The Vulnerable Rufous-necked Hornbill *Aceros nipalensis* is also found in this IBA, but in low numbers as hunting is prevalent in the area (Choudhury 2003). The rare and elusive Beautiful Nuthatch *Sitta formosa* is also reported from this IBA (Choudhury 2003).

There were earlier reports of Rusty-bellied Shortwing *Brachypteryx hypertythra* but now these sightings are considered as Snowy-browed Flycatcher *Ficedula hypertythra* which looks very similar to Rusty-bellied Shortwing, dark above, rufous throat and breast, and white eyebrow (see Rasmussen & Anderton 2005 for comparative description).

According Shashank Dalvi (*pers. comm.* 2014), who has done extensive research in this area, no one has recorded Rusty-bellied Shortwing from 2004–2014. This area is visited by many good birdwatchers, so a species like Rusty-bellied Shortwing would not have gone unnoticed all these years.

CRITICALLY ENDANGERED

Bugun Liocichla	<i>Liocichla bugunorum</i>
-----------------	----------------------------

VULNERABLE

Chestnut-breasted Partridge	<i>Arborophila mandellii</i>
Greater Spotted Eagle	<i>Clanga clanga</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Marsh Babbler	<i>Pellorneum palustre</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon	<i>Harpactes wardi</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Rufous-throated Wren-babbler	<i>Spelaeornis caudatus</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Blyth's Kingfisher	<i>Alcedo hercules</i>
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Blyth's Tragopan	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Streak-throated Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Broad-billed Warbler	<i>Tickellia hodgsoni</i>

Restricted-range species such as Hoary-throated Barwing *Actinodura nipalensis*, Beautiful Sibia *Heterophasia pulchella*, and White-naped Yuhina *Yuhina bakeri* have also been reported from this IBA (Choudhury 2003).

Till now only two species of tragopan have been recorded from Eaglenest. Blyth's Tragopan *Tragopan blythii* at mid elevation (1,600–2,300 m) and Temminck's Tragopan *Tragopan temminckii* at high elevation (2,200–2,900 m).

Among the Near Threatened species, Great Hornbill *Buceros bicornis* and Ward's Trogon *Harpactes wardi* have been reported (Choudhury 2003). Other important species include the Lesser Rufous-headed Parrotbill *Paradoxornis atosuperciliaris* and the Greater Rufous-headed Parrotbill *P. ruficeps*.

Some other interesting birds found in this IBA are Banded Bay Cuckoo *Cacomantis sonneratii* which was first record for the state (Choudhury 2003), and Rufous-bellied Eagle *Hieraaetus kienerii* recorded at 2,750 m (its known elevation is 1,500 m in Arunachal and 1,740 m in Bhutan) (Choudhury 2003, Grimmett *et al.* 1998).

A species new to science, Bugun Liocichla *Liocichla bugunorum* was described from this IBA (Athreya 2006). Since its discovery, it has been reported near Bomdila (2,700 msl) by Shewang Bonpo, a birdwatcher of Sikkim (Rahmani 2012). The new site is 100 km from Eaglenest, where the species was discovered.

Abidur Rahman (*pers. comm.* 2014) has reported many globally Threatened and non-threatened bird species since December, 2006. Since Bugun Liocichla *Liocichla bugunorum* (CR), a new species was discovered, many good birdwatchers have been visiting Eaglenests, adding new records. The sanctuary contains a good population of Ward's Trogon *Harpactes wardi* (NT), Blyth's Tragopan (VU) and Temminck's Tragopan, Rufous-throated Wren-babbler *Spelaeornis caudatus* (NT), Sikkim Wedge-billed Babbler or Blackish-breasted Babbler *Sphenocichla humei* (NT), Beautiful Nuthatch *Sitta formosa* (VU), Fire-tailed Myzornis *Myzornis pyrrhura*, Rufous-necked Hornbill *Aceros nipalensis* (VU), Chestnut-breasted Partridge *Arborophila mandellii* (VU), Greater Spotted Eagle *Clanga clanga* (VU), Dark-rumped Swift *Apus acuticauda* (VU), Blyth's Kingfisher *Alcedo hercules* (NT), Great Pied Hornbill *Buceros bicornis* (NT), Yellow-rumped Honeyguide *Indicator xanthonotus* (NT), and many other Himalayan birds. More than 430 species of birds have been recorded from this IBA in recent years.

OTHER KEY FAUNA

This IBA has the distinction of providing seasonal habitat for a large number of Asiatic Elephant *Elephas maximus* that ascend as high as Piri La peak, 3200 m, the highest elevation for the species, on a regular basis (Choudhury 2009). The elephants remain during summer months but

owing to habitat degradation in lower areas, some remain even in winter, making some altitudinal movement. The highest elevation recorded for Gaur *Bos gaurus* in its entire range was also from this IBA (Choudhury 2002). A new taxon of macaque was discovered in this IBA in 1997 (Choudhury 1998), which was later on described as a new species, the Arunachal Macaque *Macaca munzala* (Sinha *et al.* 2005) and variously treated as an invalid species (Biswas *et al.* 2011) and a subspecies of *Macaca assamensis* (Choudhury 2013).

Other key mammals are Assamese Macaque *Macaca assamensis*, Capped Langur *Trachypithecus pileata*, Red Panda *Ailurus fulgens*, Marbled Cat *Pardofelis marmorata*, Golden Cat *Catopuma temminckii*, Leopard Cat *Prionailurus bengalensis*, Fishing Cat *P. viverrinus*, Jungle Cat *Felis chaus*, and Clouded Leopard *Neofelis nebulosa*. The Leopard *Panthera pardus* is still not uncommon, but Tiger *P. tigris* has become extremely rare. Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Sambar *Rucervus unicolor*, Barking Deer *Muntiacus muntjak*, Himalayan Serow *Capricornis thar*, Himalayan Goral *Naemorhedus goral*, and Bhutan Giant Flying Squirrel *Petaurista nobilis* (Choudhury 2013) are also found.

Velho (2013) set up camera traps in Eaglenest Wildlife Sanctuary. Mammal species which were caught on camera were Yellow-throated Marten *Martes flavigula*, Himalayan Crestless or Hodgson's Porcupine *Hystrix brachyura*, Red Panda *Ailurus fulgens*, Clouded Leopard *Neofelis nebulosa*, Marbled Cat *Pardofelis marmorata*, Wild Dog *Cuon alpinus*, Asiatic Black Bear *Ursus thibetanus*, and Asian Golden Cat *Catopuma temminckii*.

Sondhi (2012), while searching for herps in Bompou (pronounced as Bongpu), heard an unfamiliar croaking call from the leaf litter near a stream. This unusual frog had blue eyes and was not recorded earlier from Eaglenest Wildlife Sanctuary; in fact it turned out to be a new species of frog. This frog was named Bompou Litter Frog *Leptobrachium bompou*, after its type locality.

Ranjan Kumar Das (*in litt.* 2014) has recorded Daphla Hill Agama and Jerdon's Pit Viper from this IBA.

LAND USE

- Nature reserve
- Orchid research and conservation
- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Felling
- *Jhum* cultivation
- Hunting
- Development activities, e.g., dam project

Though large-scale tree felling is not seen in this protected area, occasional illegal felling, especially along the



DHRTIMAN MUKHERJEE

Arunachal Macaque *Macaca munzala* is now considered a subspecies of *Macaca assamensis*

Doimara Nullah (rivulet) does occur. In the reserve forests and unclassed areas, felling has stopped since 1996. Prior to that, large-scale logging operations were conducted on the slopes facing Rupa, Jigaon, and in Chilipam (southwest of Rupa) and Shergaon areas.

Slash-and-burn shifting cultivation (*jhum*) has also destroyed some fine natural forest outside outeast of Tenga Valley. Accidental and deliberate forest fires have ravaged large parts of Eaglenest, especially in the higher areas with temperate coniferous forest.

Poaching is still a major conservation problem, except in the interior inaccessible areas of Eaglenest. However, it occurs on the fringe, occasionally along the Tenga-Doimara road and in the adjacent forests outside the sanctuary. Some hunters use trained dogs to chase mammals such as Goral *Naemorhedus goral* and galliform birds. Except for larger birds such as hornbills, hunting with guns is still not very significant. However, tragopans, hill-partridges, and Kaleej Pheasant are regularly snared along the Tenga-Doimara road and the Bomdila-Bhalukpong road.

Protection measures need to be considerably strengthened. An increased presence of wildlife staff is necessary at Khellong to protect the western part of Eaglenest.

With the possible opening of the Tenga-Doimara route for vehicular traffic in the near future, protection measures

along the road must be strengthened. As of now, vehicular traffic between these two places is significantly low as only birders use this road. Camps should be set up at Sissini, Bomp, Chaku, and Sundarview, with a larger one at Lama Camp. The wildlife staff should be provided with better infrastructural facilities such as jeeps, motorcycles, and modern firearms. Poaching should be stopped through stricter law enforcement.

Road construction, especially the Tenga-Doimara road, which bisects Eaglenest WLS, has severe impacts on the area. During the construction of the road, labourers used to fell trees for fuel and building material, and hunt galliforms with snares. The General Road Engineers Force (GREF), which is responsible for development and maintenance of the road network, have left the area, so poaching pressure from labourers is now reduced.

This sanctuary should be extended to cover the 15 sq. km strip of forest from Eaglenest Pass to Tamam Top. This stretch is easily accessible from Ramaling. During the last 10 years, full-fledged operational birding camps at Bomp, Ramaling, and Lama have been developed. The area includes four to five small lakes, excellent for birdwatching, and in summer it supports the Asiatic Elephant *Elephas maximus*. The Tenga-Doimara road should form the eastern boundary of Eaglenest sanctuary up to Alubari (north of Lama Camp). Among important bird records from this area are Ward's Trogon *Harpactes wardi*, Gould's Shortwing *Brachypteryx stellata*, Broadbilled Warbler *Tickellia hodgsoni*, Hoary-throated Barwing *Actinodura nipalensis*, Beautiful Sibia *Heterophasia pulchella*, White-naped Yuhina *Yuhina bakeri*, and Greater Rufous-headed Parrotbill *Paradoxornis ruficeps*.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Firoz Ahmed, Kulojyoti Lahkar, Shashank Dalvi.

KEY REFERENCES

- Athreya, R. (2006). A new species of *Liocichla* (Aves: Timaliidae) from Eaglenest Wildlife Sanctuary, Arunachal Pradesh, India. *Indian Birds* 2(4): 82–94.
- Biswas, J., Borah, D.K., Das, A., Das, J., Bhattacharya, P.C., Mohnot, S.M., and Horwich, R.H. (2011) The enigmatic Arunachal macaque: its biogeography, biology and taxonomy in Northeastern India. *American Journal of Primatology* 73: 1–16.
- Choudhury, A.U. (1998). Père David's macaque discovered in India. *The Rhino Foundation for nature in NE India Newsletter* 2(1): 7.
- Choudhury, A. (2002) Distribution and conservation of the Gaur *Bos gaurus* in the Indian subcontinent. *Mammal Review* 32 (3): 199–226.
- Choudhury, A. (2003) Birds of Eaglenest wildlife sanctuary and Sessa orchid sanctuary, Arunachal Pradesh, India. *Forktail* 19: 1–14.
- Choudhury, A. (2009) Highest elevation reached by Asian elephants



JIM GLOVER

Bugun Liocichla *Liocichla bugunorum* described to science as a new species in 2006 is now considered Critically Endangered by BirdLife and IUCN

- Elephas maximus* Linn. – a review. *JBNHS* 106(1): 92–94.
- Choudhury, A. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for nature in NE India. Guwahati. Pp. 431.
- Grimmett, R., Inskipp, C., and Inskipp, T. (1998) *Birds of the Indian Subcontinent*. Christopher Helm, London.
- Rahmani, A.R. (2012) *Threatened Birds of India: Their Conservation Requirements*. Indian Bird Conservation Network: Bombay Natural History Society, Royal Society for the Protection of Birds and BirdLife International. Oxford University Press. Pp. xvi + 864.
- Rasmussen, P.C. and Anderton, J.C. (2005) *Birds of South Asia. The Ripley Guide*. 2 vols. Smithsonian Institution and Lynx Edicions, Washington, D.C. and Barcelona.
- Sinha, A., Datta, A., Madhusudan, M.S., and Mishra, C. (2005) The Arunachal Macaque *Macaca munzala*: a new species from Western Arunachal Pradesh, Northeast India. *International J. Primatology* 26: 977–989.
- Sondhi, S. (2012) The Bompou Litter Frog... A new frog species from India. *Sanctuary Asia* 32(5): 64–67.
- Velho, N. (2013) Misty mountains' mammals – an Eaglenest story. *Sanctuary Asia* 33(6): 68–69.

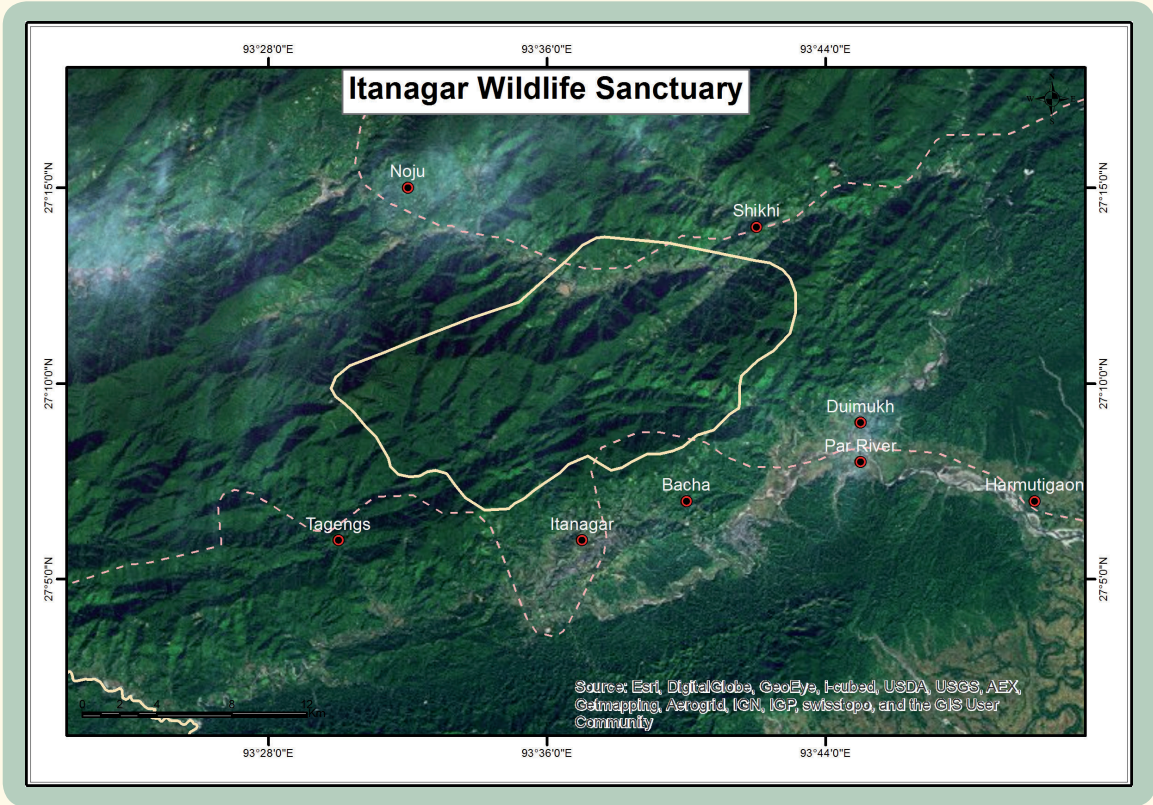
ITANAGAR WILDLIFE SANCTUARY

IN-AR-08

IBA Site Code	: IN-AR-08	Area	: 14,030 ha (c. 10,000 ha IBA)
Administrative Region (State)	: Arunachal Pradesh	Altitude	: 250–460 m
District	: Papumpare	Rainfall	: >2,500 mm
Coordinates	: 27° 05' 39" N, 93° 30' 15" E	Temperature	: 5 °C to 38 °C
Ownership	: State	Biogeographic Zone	: Himalaya
		Habitats	: Tropical Semi-evergreen Forest

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Wildlife Sanctuary, established June, 1978.



GENERAL DESCRIPTION

Itanagar Wildlife Sanctuary is unique in the sense that the state capital, Itanagar, is located inside the sanctuary! The major business town of Arunachal Pradesh was Naharlagun, but the capital was shifted to Itanagar. As Itanagar town grew, large-scale deforestation took place. For the expansion of the Itanagar capital complex, c. 43 sq. km area is proposed to be excluded from the sanctuary, while on the western border, an area of equal size is proposed to be added. Out of 14,080 ha, we have designated c. 10,000 ha of forest area, excluding the capital city and other settlements, as the IBA.

The sanctuary is located north of the Drupong Reserve Forest and north-west of Doimukh Reserve Forest. Poma, Pam, Pachin, Neurochi and Chingke are the major streams.

The area is entirely hilly, with a few valleys.

The forest is a heterogenous mixture of Evergreen and Semi-evergreen forest types. Pure stands of Bamboo occur all over the IBA.

AVIFAUNA

Even in this disturbed sanctuary, 182 bird species have been reported (Singh 1994, Kumar 2003). The White-winged Duck *Asarcornis scutulata* is likely to occur in the sanctuary or in the adjoining Drupong Reserve Forest (A.U. Choudhury, pers. comm. 2003). Four species of hornbills, the Great Pied *Buceros bicornis*, Wreathed *Aceros undulatus*, Oriental Pied *Anthracoceros albirostris*, and Rufous-necked Hornbill *Aceros nipalensis* occur in the area.

This site was selected as an IBA based on the presence of globally Threatened species. The site lies in the Eastern Himalaya Endemic Bird Area (EBA 130). Stattersfield *et al.* (1998) have listed 21 restricted-range species in this EBA. There are chances of occurrence of the Broad-billed Warbler *Tickellia hodgsoni* and Yellow-vented Warbler *Phylloscopus cantator*. As these species have a much wider winter range,

ENDANGERED

White-winged Duck (?) *Asarcornis scutulata*

VULNERABLE

Rufous-necked Hornbill *Aceros nipalensis*

they could be present here. The forests of this IBA could also have Beautiful Sibia *Heterophasia pulchella*. It is also important as a centre of environmental education due to its easy accessibility for the citizens of Itanagar.

OTHER KEY FAUNA

This area is known for the presence of threatened mammals such as the Asiatic Elephant *Elephas maximus*, Tiger *Panthera tigris* (occasional), Asiatic Black Bear *Ursus thibetanus*, Gaur *Bos gaurus*, and Wild Dog *Cuon alpinus*. The primates include Assamese Macaque *Macaca assamensis*, Rhesus Macaque *M. mulatta*, Capped Langur *Trachypithecus pileata*, and Slow Loris *Nycticebus coucang*. A Spotted Linsang *Prionodon pardicolor* was caught in the sanctuary (Choudhury 2002).

LAND USE

- Nature conservation
- Tourism
- Urban settlement

THREATS AND CONSERVATION ISSUES

- Hunting
- Encroachment
- Urbanization
- Timber smuggling
- Non-timber forest produce (NTFP) collection
- Forest fires

Itanagar WLS was earlier rich in forest cover with abundant wildlife, but after the setting up of the capital city at Itanagar, primary forests have been degraded and replaced with secondary growth. The forest cover on the lower hills all along the Assam-Arunachal border, which was extensive, is now highly fragmented. Species such as Asiatic Elephant, which mainly occur in the lower hills, are deprived of their habitat and have now come into direct conflict with humans.

Encroachments for *jhum* (slash-and-burn) cultivation,



MUSKAN TYENG

Sale of bush meat was very common at one time in Itanagar and other towns and villages of Arunachal, but thanks to steps by the forest department, such scenes are now rare

heavy timber felling as permitted under the Capital complex construction, apart from illegal logging, along with the high demand for firewood and non-timber forest produce, poses a serious threat to the standing forest cover in the sanctuary. Hunting is a serious threat and is widespread throughout the sanctuary. The presence of a large number of villages and a growing human population in the city nearby has led to increased poaching. There is regular loss of livestock Mithun, a semi-domesticated cattle species, due to attacks by wild dogs in recent years, which could be a result of decreasing prey base in the sanctuary. Hunting by the local people could also be the reason for the loss of the prey base.

Forest fires in summer are now becoming an issue, as happened in March 2012 when a large part was burnt by miscreants.

KEY CONTRIBUTORS

R. Suresh Kumar, Bharat Bhushan Bhatt, Anwaruddin Choudhury.

KEY REFERENCES

- Choudhury, A.U. (2002) Some recent records of the Spotted Linsang *Prionodon pardicolor* from India. *Small Carnivore Conservation* 27: 12.
- Kumar, R.S. (2003) A report on a few selected Important Bird Areas of Arunachal Pradesh. Submitted to the IBCN-BNHS, Mumbai. Unpubl.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

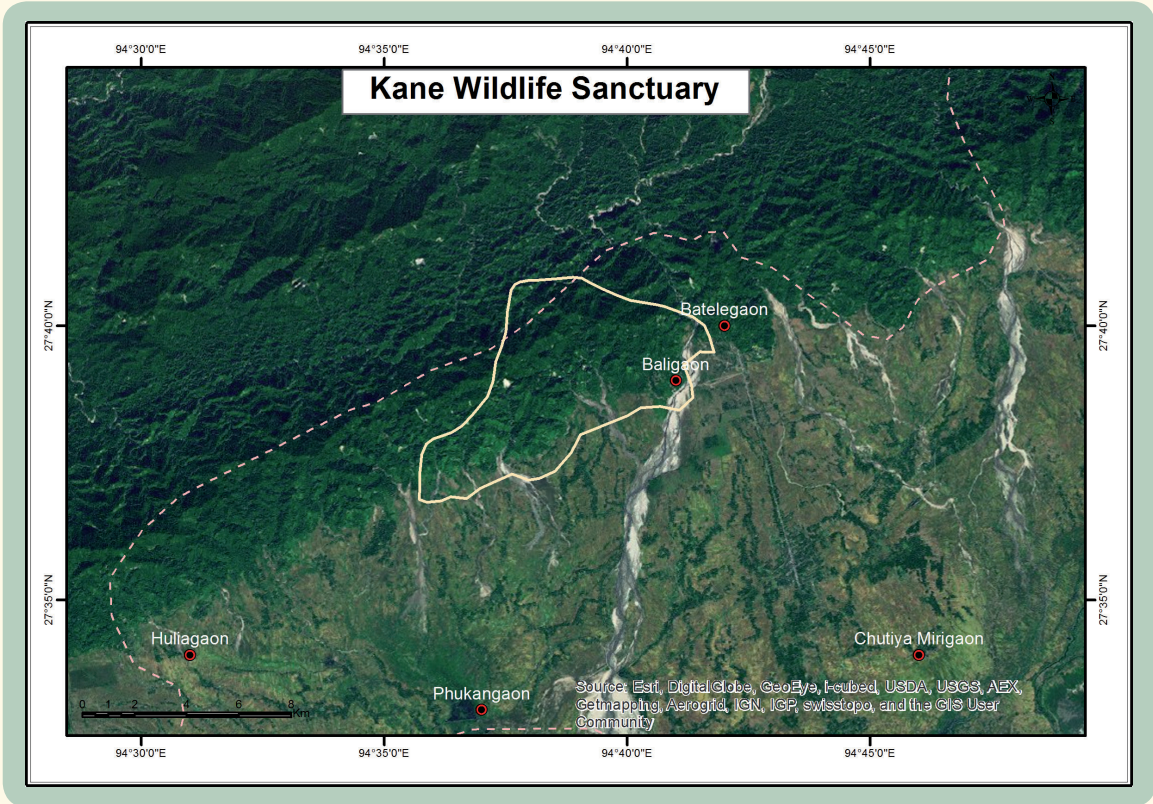
KANE WILDLIFE SANCTUARY

IN-AR-09

IBA Site Code	: IN-AR-09	Altitude	: 120–1,500 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >2,500 mm
District	: West Siang	Temperature	: 5 °C to 32 °C
Coordinates	: 27° 40' 00" N, 94° 39' 00" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Tropical Evergreen Forest, Tropical Semi-evergreen Forest, Sub-tropical Broadleaf Hill Forest
Area	: 5,500 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Wildlife Sanctuary, established September, 1991.



GENERAL DESCRIPTION

This little known sanctuary lies close to the Assam-Arunachal border and can be approached from Likabali on the way to Along, the district headquarters. The sanctuary area has now been reduced to 3,200 ha owing to objection by some village communities. However, the IBA includes both the sanctuary and the excluded areas which are well forested. A large number of streams and small rivers intersect the sanctuary; the River Siji forms the western boundary of the area. The terrain is mainly hilly, with steep to gentle slopes that are covered by dense vegetation. Access to the interior of the sanctuary is limited due to lack of roads, and so the forest, especially the interior,

is untouched and pristine. The forest is a heterogeneous mixture of Evergreen and Semi-evergreen species. Bamboo forms a dense understorey.

AVIFAUNA

Earlier, c. 70 species were recorded in Kane WLS (Kumar 2003), but the count is now more than 230 species (A.U. Choudhury, *pers. comm.* 2013). There are a few pools deep inside the sanctuary that appear ideal for the Endangered White-winged Duck *Asarcornis scutulata*, though none were seen. Local hunters report Rufous-necked Hornbill *Aceros nipalensis*, a species considered Vulnerable by BirdLife International (2001). The local villagers and forest staff also

reported a lone White-bellied Heron *Ardea insignis* from Siji river (Choudhury, 2015). The most significant recent find is the Dark-rumped or Khasi Hills Swift *Apus acuticauda*. Small numbers were observed near a cliff overlooking Siji river, just outside the wildlife sanctuary, but inside the IBA (Choudhury 2013). This happens to be the first record for Arunachal Pradesh.

The site lies in Eastern Himalaya Endemic Bird Area (EBA 130), according to the classification of Stattersfield *et al.* (1998). In this EBA, 21 species have been listed, and from this site, only two of these species have been identified but need further confirmation. Once detailed studies are conducted on the bird diversity of this site, more restricted-range species are likely to be found.

Owing to great variation in altitude from 120 m to 1,500 m, and presence of good forest cover of Sub-tropical Evergreen and Sub-tropical Broadleaf forest, birds of Biome 9 (Indo-Chinese Tropical Moist Forest) and Biome 8 (Sino-Himalayan Subtropical Forest) are likely to be found. Therefore, this site would qualify for A3 (Biome-restricted assemblages) criteria also.

CRITICALLY ENDANGERED

White-bellied Heron (?) *Ardea insignis*

ENDANGERED

White-winged Duck (?) *Asarcornis scutulata*

VULNERABLE

Rufous-necked Hornbill *Aceros nipalensis*

Dark-rumped or Khasi Hills Swift *Apus acuticauda*

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Beautiful Sibia (?) *Heterophasia pulchella*

Broad-billed Warbler (?) *Tickellia hodgsoni*

OTHER KEY FAUNA

The area is known for the presence of threatened mammals such as Asiatic Elephant *Elephas maximus*, Tiger *Panthera tigris*, Asiatic Black Bear *Ursus thibetanus*, Wild Dog *Cuon alpinus*, and Gaur *Bos gaurus*. Among primates there are the Slow Loris *Nycticebus bengalensis*, Assamese Macaque *Macaca assamensis*, Rhesus Macaque *M. mulatta*, and Capped Langur *Trachypithecus pileatus*. Camera trapping carried out in early 2013 revealed the presence of Himalayan Serow *Capricornis thar* and Indian Muntjac

Muntiacus muntjak (A.U. Choudhury, *pers. comm.* 2013).

LAND USE

- Nature conservation
- Agriculture

THREATS AND CONSERVATION ISSUES

- Hunting
- Illegal felling of trees
- Boulder collection

Kane WLS is important for its relatively undisturbed pristine habitats. This area needs to be preserved for the conservation of threatened birds and mammals such as the Elephant and Tiger (occasional) that have been lost elsewhere. There is some resentment amongst local people due to the establishment of this sanctuary, since they cannot hunt or collect forest products from the area anymore.

Though it is located very close to the Assam-Arunachal border, this IBA has faced relatively few threats. Logging activities were mainly concentrated along the fringe areas, and encroachment for agriculture has been minimal. Hunting and fishing do occur, but much less than in other lowland areas.

KEY CONTRIBUTORS

Suresh Kumar, Bharat Bhushan Bhatt, Anwaruddin Choudhury.

KEY REFERENCES

- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Choudhury, A.U. (2013). First record of the Dark-rumped or Khasi Hills Swift *Apus acuticauda* in Arunachal Pradesh. *The Newsletter & Journal of the Rhino Foundation for nature in NE India* 9: 65–68.
- Choudhury, A.U. (2015) Kane – a lesser known IBA of Arunachal Pradesh. *Mistnet* 16(1): 2–3.
- Kumar, R.S. (2003) A report on a few selected Important Bird Areas of Arunachal Pradesh. Submitted to the IBCN-BNHS, Mumbai. Unpubl.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

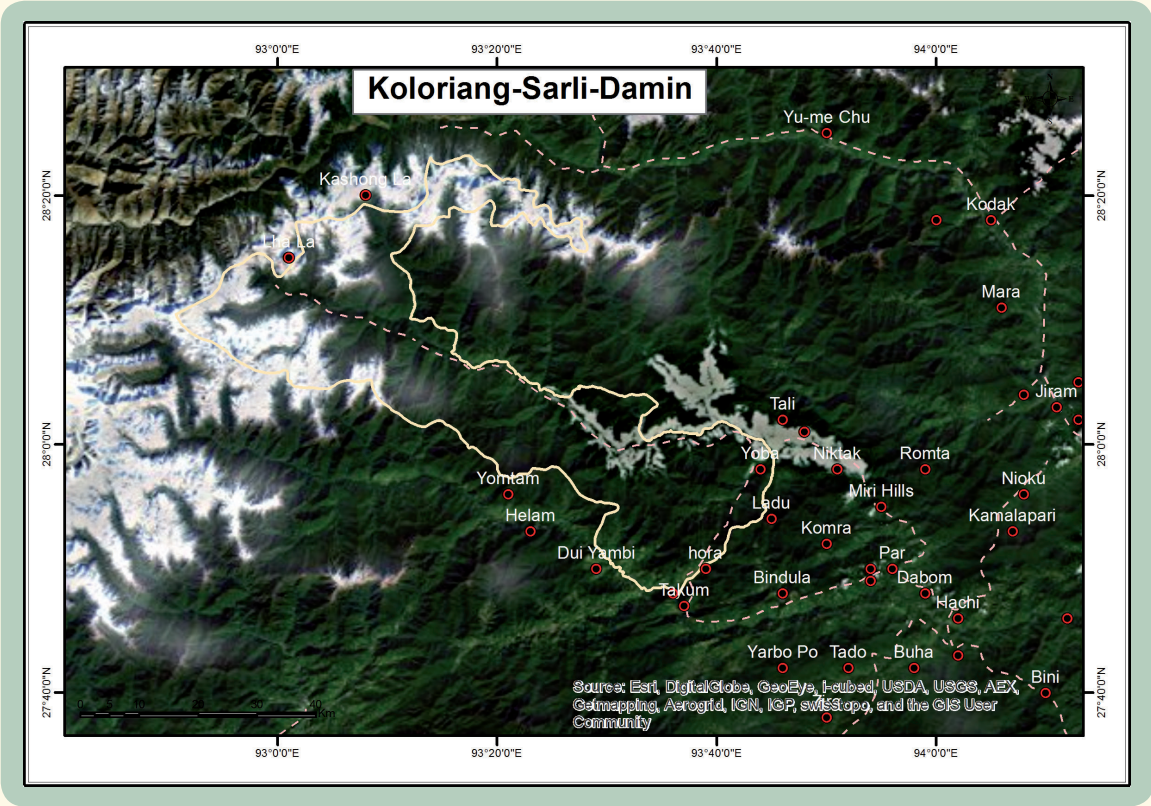
KOLORIANG-SARLI-DAMIN AREAS

IN-AR-10

IBA Site Code	: IN-AR-10	Altitude	: 800–5,000 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >1,800 mm
District	: Kurung Kumey	Temperature	: 0 °C to 25 °C
Coordinates	: 27° 40' 18" N, 93° 17' 51" E	Biogeographic Zone	: Himalaya
Ownership	: Community	Habitats	: Sub-tropical Broadleaf and Coniferous Forest, Montane Wet Temperate Forest, Sub-alpine Scrub, Alpine Pasture
Area	: c. 200,000 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

This site is a large area c. 200,000 ha in the Kurung Kumey district around Koloriang, Sarli, and Damin areas. As the altitude varies from 800 m to 5,000 m, four biome types are found.

Tropical evergreen and semi-evergreen forests usually occur in the lower areas, mainly below 900 m. Here, closed canopy forests with many storeys are seen. Sub-tropical forests occur from 900 m to 1,800 m, temperate forests between 1,800 m and 3,500 m, sub-alpine from 3,500 m to 4,300 m, and alpine meadows from 3,700 m to 5,500 m (Kumar & Singh 1999).

AVIFAUNA

A detailed checklist of the birds of this IBA is not available. However, Singh (1994) and Kumar & Singh (1999) have conducted general surveys of this and other areas of Arunachal Pradesh.

A significant discovery from this area is a new monal subspecies of *Lophophorus* (*Lophophorus sclateri arunachalensis*). The males of the new monal appeared very similar to the male of Sclater’s Monal *Lophophorus sclateri*, except for the completely white tail in the former. The new monal was sighted on nine occasions (5 males, 13 females, and 1 subadult) in the Sarli circle of

R. SURESH KUMKAR



The subspecies *Lophophorus sclateri arunachalensis* has been reported only in western Arunachal Pradesh

Lower Subansiri district. All sightings were made in the alpine meadows between 3,900 m and 4,200 m (Kumar & Singh 1999). Feathers of this taxon were found in Tali and Damin, indicating a wide distribution in this area (Kumar & Singh 1999). This subspecies occupies a narrow distribution range from eastern Tawang to east of River Subansiri where previously the nominate species was

thought to occur. It is accepted as a new subspecies and not a full species (Rasmussen & Anderton 2005, 2012; del Hoyo & Collar 2014)

In the upper reaches of Kurung Kumey, besides the new taxon of monal pheasant, Kumar & Singh (1999) have recorded the following pheasants: Temminck's Tragopan *Tragopan temminckii*, Blood Pheasant *Ithaginis cruentus*, and Black-breasted Kaleej *Lophura leucomelanos lathami*.

Kumar & Singh (1999) found feathers of the Rufous-necked Hornbill *Aceros nipalensis* near Kolo Rieng at an altitude of 1,000 msl. There is a stray record of Black-necked Crane *Grus nigricollis* in Kolo Rieng (Choudhury 2002).

This site falls in the Eastern Himalaya Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998), in which 21 species are considered as restricted-range. Nine restricted-range species are found here, but some need further confirmation. The new monal taxon is confined to a narrow altitudinal belt in Arunachal Pradesh (Kumar & Singh 1999), so it would also qualify for restricted-range status.

As the altitude of this IBA varies from 800 to 5,000 msl, four biomes are represented here: Biome 5 (Eurasian High Montane – Alpine and Tibetan) above c. 3,600 m; Biome 7 (Sino-Himalayan Temperate Forest) between c. 1,800 m to 3,600 m; Biome 8 (Sino-Himalayan Subtropical Forest) between c. 1,000 m to 2,000 m; and Biome 9 (Indo-Chinese Tropical Moist Forest) below 1,000 m. Studies on birds are required to find out how many biome-restricted species are

VULNERABLE

White-tailed Monal	<i>Lophophorus sclateri arunachalensis</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Rusty-throated Wren-babbler (?)	<i>Spelaeornis badeigularis</i>

NEAR THREATENED

Ward's Trogon (?)	<i>Harpactes wardi</i>
Blackish-breasted Wren-babbler	<i>Sphenocichla humei</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Ward's Trogon (?)	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Rusty-throated Wren-babbler (?)	<i>Spelaeornis badeigularis</i>
Blackish-breasted Wren-babbler	<i>Sphenocichla humei</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-warbler	<i>Tickellia hodgsoni</i>



Tails of *Lophophorus impejanus* (Himalayan Monal), *L. sclateri arunachalensis*, and *L. sclateri* (nominate)

found in this IBA. As the habitat is intact in many parts of this IBA, significant populations of many biome-restricted species are likely to be present. Therefore, we feel that this IBA perfectly fits A3 criteria also.

OTHER KEY FAUNA

There are confirmed records of Tiger *Panthera tigris* and Leopard *P. pardus* in Sarli and Damin areas (Kumar & Singh 1999). Other larger mammals found in this IBA are the Red Panda *Ailurus fulgens*, Asiatic Black Bear *Ursus thibetanus*, Takin *Budorcas taxicolor*, Himalayan Serow *Capricornis thar*, Goral *Naemorhaedus goral*, and *N. griseus*, Bharal or Blue Sheep *Pseudois nayaur*, Alpine Musk Deer *Moschus chrysogaster* and Black Musk Deer *M. fuscus*, Sambar *Rucervus unicolor* (in the lower areas), and Barking Deer *Muntiacus muntjak* (Choudhury 2013).

LAND USE

- Cultivation
- Sustainable hunting

THREATS AND CONSERVATION ISSUES

- Hunting
- Timber operation

The discovery of a new pheasant taxon, a subspecies of Sclater's Monal *Lophophorus sclateri arunachalensis* (Kumar & Singh 2004) gives this area (and other nearby IBAs where it is found) priority protection. Kumar & Singh (1999) found that all pheasant species, including the new taxon, are hunted for food. Hunting is a part of the culture of the tribes living here and in practice it would be difficult to curb. Therefore, the first step towards conservation of pheasants could be through setting up of large protected areas, and intensive environmental education. Most of

the protected areas in Arunachal Pradesh are in the lower reaches, only a few are situated above 3,000 m. Most of the pheasant species of conservation concern inhabit areas above 2,000 m. Kumar & Singh (1999) found evidence that the new pheasant taxon occurs only between 92° to 94° E, above 3,000 m and along the Great Himalayan Range. Some of the areas important for pheasants are also the regular haunts of endangered species such as the Takin, Musk Deer, and Red Panda, all Schedule I species under the Indian Wildlife (Protection) Act. We suggest that a new protected area should be declared in the habitat of the new Monal taxon that is probably endemic to Arunachal Pradesh. According to the local people, areas above 2,000 m are unfit for cultivation, so hunting is the only occupation. This can be replaced by guided birdwatching tours.

KEY CONTRIBUTORS

Bikul Goswami, Suresh Kumar, Anwaruddin Choudhury.

KEY REFERENCES

- Choudhury, A.U. (2002) Status of cranes in northeastern India. Pp. 41–44. In: Rahmani, A.R. and Ugra, Gayatri (Eds) *Birds of Wetlands and Grasslands: Proceedings of the Sálím Ali Centenary Seminar on Conservation of Avifauna of Wetlands and Grasslands*. Bombay Natural History Society, Mumbai. Pp. x + 228.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- del Hoyo, J. and Collar, N.J. (2014) *HBW and BirdLife International Illustrated Checklist of the Birds of the World*. Volume 1: Non-passerines. Lynx Edicions, Barcelona.
- Rasmussen, P.C. and Anderton, J.C. (2005) *Birds of South Asia: The Ripley Guide*. Vols 1 & 2. Smithsonian Institution and Lynx Edicions, Washington, D.C. and Barcelona.
- Rasmussen, P.C. and Anderton, J.C. (2012) *Birds of South Asia: The Ripley Guide*. Vols 1 & 2, 2nd edn. National Museum of Natural History – Smithsonian Institution, Michigan State University, and Lynx Edicions, Washington, D.C., Michigan, and Barcelona.
- Kumar, S. and Singh, P. (1999) A Study on Pheasant Distributions in Arunachal Pradesh, Eastern Himalayas, India. Wildlife Institute of India, Dehradun. Pp. 52.
- Kumar, S., and Singh, P. (2004) A new subspecies of Sclater's Monal *Lophophorus sclateri* from western Arunachal Pradesh, India. *Bulletin of the British Ornithologists' Club* 124: 16–28.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, UK. Pp. 846.

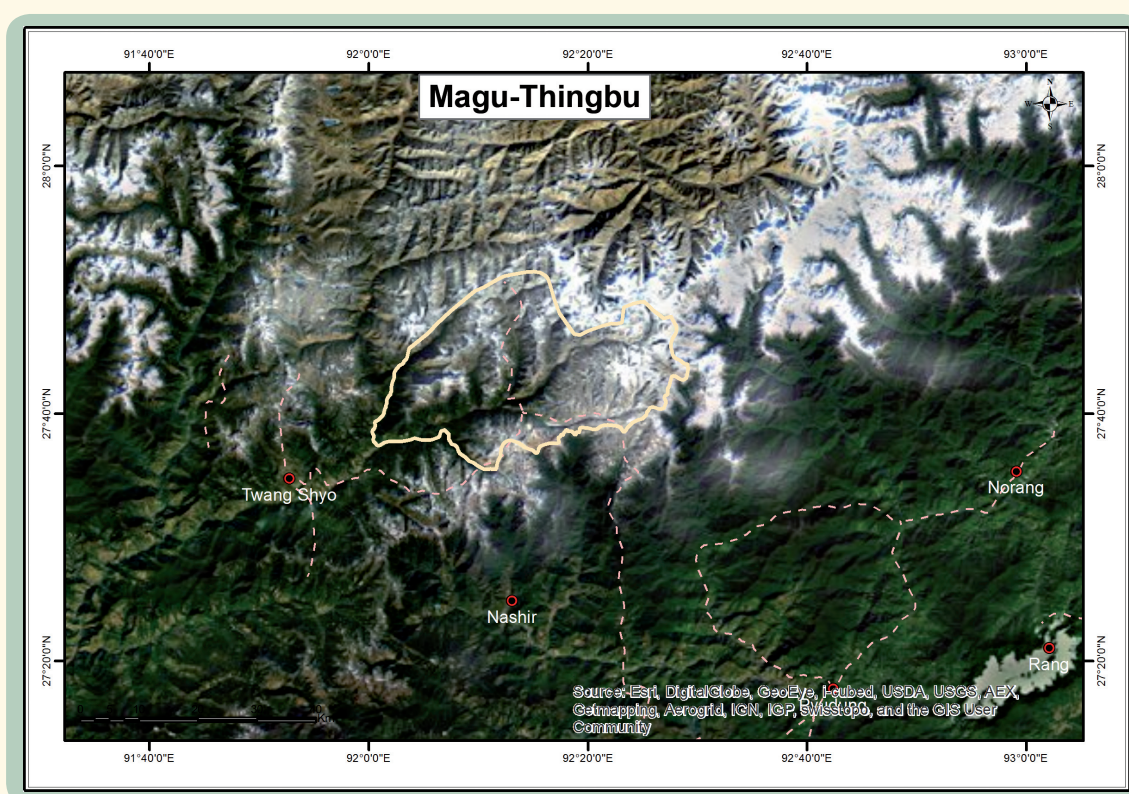
MAGU-THINGBU

IN-AR-11

IBA Site Code	: IN-AR-11	Rainfall	:
Administrative Region (State)	: Arunachal Pradesh	Temperature	: Subzero to 32 °C
District	: Tawang	Biogeographic Zone	: Himalaya
Coordinates	: 27° 40' 00" N, 92° 10' 00" E	Habitats	: Sub-tropical Coniferous and Broadleaf Forests, Temperate Broadleaf and Coniferous Forests, Sub-alpine Forest, Alpine Pasture
Ownership	: Community		
Area	: Not available		
Altitude	: 2,000–5,000 msl		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya), A3 (Biome 7: Sino-Himalayan Temperate Forest; Biome 5: Eurasian High Montane – Alpine and Tibetan)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

Magu Thingbu is a high altitude area with characteristic forest types such as Temperate Coniferous Forest in the higher reaches to Mixed Broadleaf in the lower reaches. Most of the area remains permanently covered with snow; the international borders with Tibet to the north and Bhutan to the west demarcate the area. There are large pure stands of Juniper forest, and some high altitude lakes, where winter nesting for birds is possible. There is very little information on the area.

AVIFAUNA

Notable is the Wood Snipe *Gallinago nemoricola*, of which

one was collected and many seen in the hills west of Mago, at 4,250 m in 1934 (Ludlow & Kinnear 1937). The present status of this globally Threatened species is not known.

According to A.U. Choudhury (*pers. comm.* 2003), the Vulnerable Scater's Monal *Lophophorus sclateri* would be present above 2,400 m. Extensive tracts of temperate coniferous and broadleaf forests still exist in this IBA, that are important for Vulnerable species such as Beautiful Nuthatch *Sitta formosa* and Rufous-necked Hornbill *Aceros nipalensis*. Significant populations of these species are likely to be found here (Dey 2003). Among the Near Threatened species, only Blue-naped Pitta *Pitta nipalensis* has been



The Tawang Chu (*Chu*=river) flowing through Thingbu Circle, with snow-capped peaks visible above Magu. This is a remote IBA of the Eastern Himalaya

identified till now, but more bird species of this category are likely to be present.

The site lies in Eastern Himalaya Endemic Bird Area (EBA 130) in which Stattersfield *et al.* (1998) have listed 21 species as restricted-range. Of these, three species are known to occur at this site.

This site represents two biomes: Biome 7 (Sino-Himalayan Temperate Forest) and Biome 5 (Eurasian High Montane – Alpine and Tibetan), according to the classification of BirdLife International (undated). Only three species of Biome 5 have been seen, out of the 48 listed by BirdLife International. There is a long list of 112 species in Biome 7, but only nine have been identified from this IBA till now, due to lack of detailed studies rather than paucity of avifauna.

OTHER KEY FAUNA

This area is important for several mammalian species such as Alpine Musk Deer *Moschus chrysogaster*, Black Musk Deer *Moschus fuscus*, Takin *Budorcas taxicolor*, Himalayan Goral *Naemorhedus goral*, Himalayan Serow *Capricornis thar*, and Bharal or Blue Sheep *Pseudois nayaur* (Choudhury 2013). There is a report of Shou or Tibetan Red Deer *Cervus elaphus wallichi* from this IBA (Choudhury 2002).

LAND USE

- Agriculture
- Forestry
- Nature conservation
- Military

VULNERABLE

Pallas's Fish-Eagle (?)	<i>Haliaeetus leucoryphus</i>
Slater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Slater's Monal	<i>Lophophorus sclateri</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
Striped Laughingthrush	<i>Garrulax virgatus</i>

BIOME 5: EURASIAN HIGH MONTANE

Himalayan Griffon	<i>Gyps himalayensis</i>
Snow Pigeon	<i>Columba leuconota</i>
Wallcreeper	<i>Tichodroma muraria</i>

BIOME 7: SINO-HIMALAYAN TEMPERATE FOREST

White-throated Laughingthrush	<i>Garrulax albogularis</i>
Striated Laughingthrush	<i>Garrulax striatus</i>
Spotted Laughingthrush	<i>Garrulax ocellatus</i>
Streaked Laughingthrush	<i>Garrulax lineatus</i>
Scaly Laughingthrush	<i>Garrulax subunicolor</i>
Black-faced Laughingthrush	<i>Garrulax affinis</i>
Golden-breasted Fulvetta	<i>Alcippe chrysotis</i>
Green-backed Tit	<i>Parus monticolus</i>
Bar-tailed Tree-creeper	<i>Certhia himalayana</i>
Rusty-flanked Tree-creeper	<i>Certhia nipalensis</i>

THREATS AND CONSERVATION ISSUES

- Shifting cultivation
- Poaching
- Felling

The area is not as susceptible to hunting as other parts of Arunachal Pradesh because the small local population is Buddhist. Army personnel who used to poach occasionally in the past no longer do so, owing to enhanced awareness.

KEY CONTRIBUTORS

B.B. Bhatt, Bablu Dey, Anwaruddin Choudhury.

KEY REFERENCES

- BirdLife International (undated) *Important Bird Areas (IBAs) in Asia: Project Briefing Book*. BirdLife International, Cambridge, UK. Unpubl.
- Choudhury, A.U. (2002) Possible occurrence of Tibet Red Deer *Cervus elaphus wallichi* in Arunachal Pradesh. *JBNHS* 99(2): 286–288.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- Dey, B. (2003) Report on survey of unexplored Important Bird Area (IBA) of Arunachal Pradesh. Report submitted to the Bombay Natural History Society, Mumbai. Pp. 11.
- Ludlow, F. and Kinnear, N. (1937) The birds of Bhutan and adjacent territories of Sikkim and Tibet. *Ibis* 14(1): 1–46, 249–293, 467–504.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

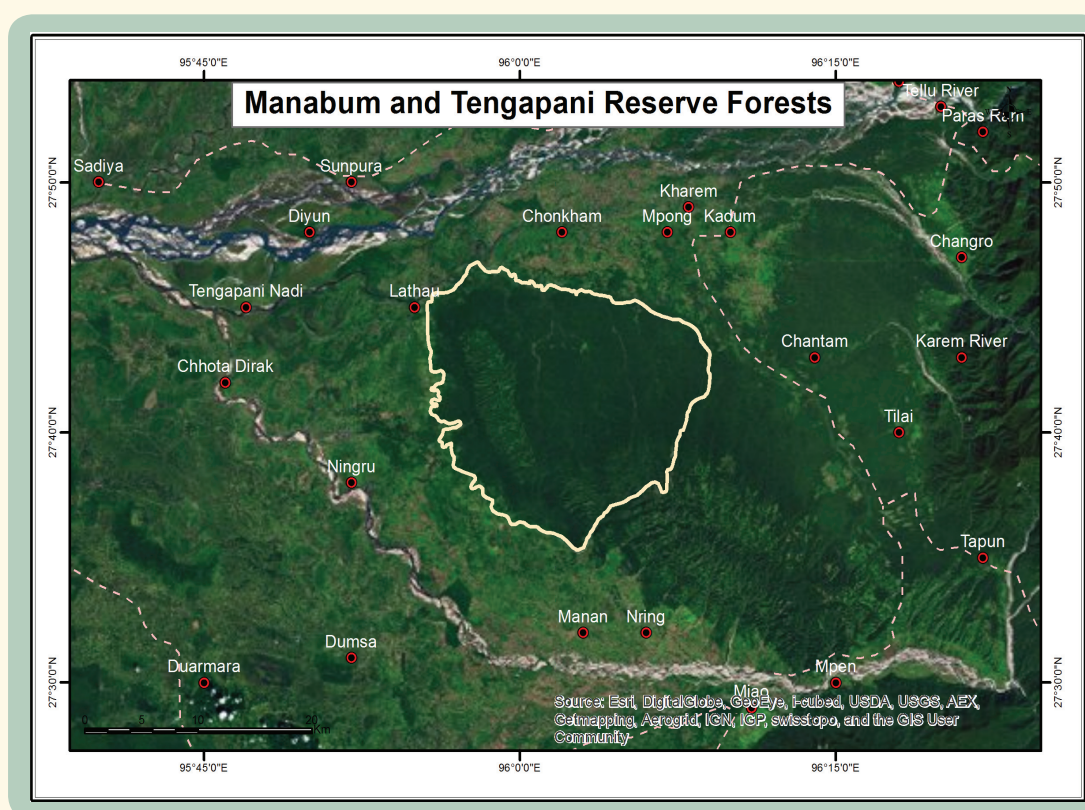
MANABUM AND TENGAPANI RESERVE FORESTS

IN-AR-12

IBA Site Code	: IN-AR-12	Area	: 58,000 ha
Administrative Region (State)	: Arunachal Pradesh	Altitude	: 100–400 msl
District	: Lohit	Rainfall	: 2,200–4,000 mm
Coordinates	: 27° 41' 60" N, 96° 04' 60" E	Temperature	: 6 °C to 32 °C
Ownership	: State	Biogeographic Zone	: Himalaya
		Habitats	: Tropical Wet Evergreen Forest

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Not officially protected, Reserve Forest.



GENERAL DESCRIPTION

This IBA consists of two large and contiguous reserve forests, Tengapani (44,400 ha) and Manabum or Manabhum (1,360 ha) in eastern Arunachal Pradesh. The site covers the plains along Lohit river as well as low to medium hills, which are part of the Dapha Bum Range of Mishmi Hills. A large number of perennial streams are found in this IBA. Most of this IBA forms part of the Eastern Himalaya Endemic Bird Area (EBA 130), with a small area resembling the Assam Plains (Stattersfield *et al.* 1998).

Tall wet savanna grassland covers small areas, often along the bends of streams. However, Tropical Wet Evergreen Forest, although degraded in places, forms a major part of the site (A.U. Choudhury, *pers. comm.* 2003).

AVIFAUNA

Though it is a large forested area rich in biodiversity, this IBA was overlooked in many of the earlier surveys (Singh 1994, 1999). The White-winged Duck *Asarcornis scutulata* has been reported from both the reserve forests (Choudhury 1996). Some of the unexplored areas of this IBA are potential sites for the Endangered Masked Finfoot *Heliopais personata* and Critically Endangered White-bellied Heron *Ardea insignis*. A Vulnerable species, the Purple Wood or Pale-capped Pigeon *Columba punicea*, was also reported but needs confirmation. Occurrence of five species of hornbills, including the Vulnerable Rufous-necked *Aceros nipalensis* (mainly seen in winter) and the Near Threatened Great Pied *Buceros bicornis* and Brown *Anorrhinus tickelli*



Rufous-necked Hornbill *Aceros nipalensis* is one of the good indicators of old growth and natural forest

ENDANGERED

White-bellied Heron (?)	<i>Ardea insignis</i>
White-winged Duck	<i>Asarcornis scutulata</i>
Masked Finfoot (?)	<i>Heliopais personata</i>

VULNERABLE

Purple Wood-Pigeon (?)	<i>Columba punicea</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>

NEAR THREATENED

Lesser Fish-eagle	<i>Ichthyophaga humilis</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Brown Hornbill	<i>Anorrhinus tickelli</i>

is noteworthy. The Near Threatened Lesser Fish-eagle *Ichthyophaga humilis* has been sighted recently in October, 2013 (A.U. Choudhury, *pers. comm.* 2003, 2014).

OTHER KEY FAUNA

Among the major mammals are the Tiger *Panthera tigris*, Asiatic Elephant *Elephas maximus*, Gaur *Bos frontalis*, and a large population of Hoolock Gibbon *Hylobates hoolock* (Choudhury 2003). Burmese Rock Python *Python molurus bivittatus* and King Cobra *Ophiophagus hannah* are among the noteworthy snakes of the area. The rare Gharial *Gavialis*

gangeticus, which is nearly extirpated, also used to occur in Tengapani river (A.U. Choudhury, *pers. comm.* 2014).

LAND USE

- Forestry
- Agriculture

THREATS AND CONSERVATION ISSUES

- Encroachment
- Felling of trees
- Poaching
- Grazing

The major issues are encroachment and felling of trees. As a large part of the site is flat or gently sloping, encroachment for settlement and cultivation is a major concern. Grazing of cattle and poaching are other problems. The area is recommended as a protected area for the conservation of Gaur *Bos gaurus* (Choudhury 2002), which will also help protect a large habitat of the White-winged Duck.

KEY CONTRIBUTOR

Anwaruddin Choudhury

KEY REFERENCES

- Choudhury, A.U. (1996) Survey of the White-winged Wood Duck and Bengal Florican in Tinsukia district and adjacent areas of Assam and Arunachal Pradesh. The Rhino Foundation for Nature in NE India, Guwahati. Pp. 82.
- Choudhury, A.U. (2002) Distribution and conservation of the Gaur *Bos gaurus* in the Indian Subcontinent. *Mammal Review* 32(3): 199–226.
- Choudhury, A.U. (2003) *The Mammals of Arunachal Pradesh*. Regency Publications, New Delhi.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Singh, P. (1999) Bird survey in selected localities of Arunachal Pradesh, India. Wildlife Institute of India, Dehradun. Pp. 92.
- Stattersfield, A.J., Crosby, M.J., Long, A.J. and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, U.K. Pp. 846.

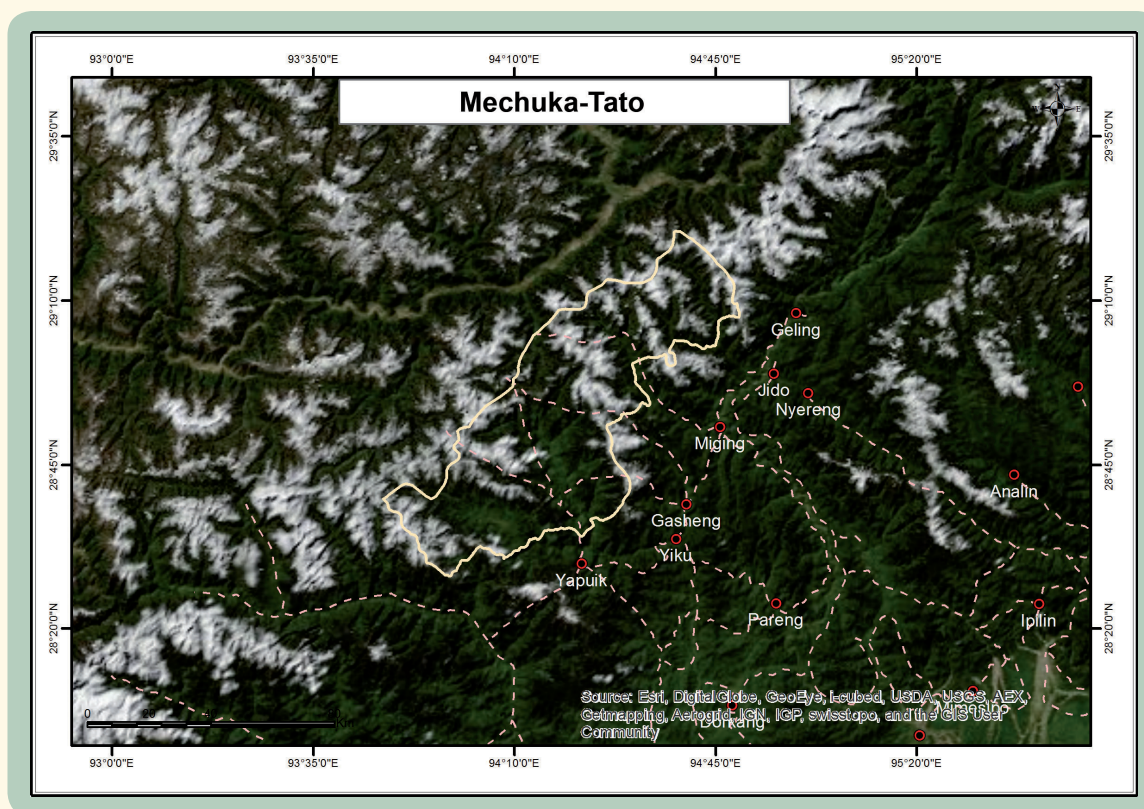
MECHUKA-TATO

IN-AR-13

IBA Site code	: IN-AR-13	Altitude	: 1,300–5,000 msl
Administrative Region	: Arunachal Pradesh	Rainfall	: >2,000 mm
(State)		Temperature	: Subzero to 25 °C
District	: West Siang	Biogeographic Zone	: Himalaya
Coordinates	: 28° 30' 00" N, 94° 30' 00" E	Habitats	: Sub-tropical Broadleaf and Coniferous Forest, Temperate Broadleaf and Coniferous Forest, Sub-alpine Forest, Alpine Pasture
Ownership	: Community		
Area	: c. 200,000 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

This large IBA covers the forests and snow-covered peaks of the Great Himalaya in northern Arunachal Pradesh. The site covers Mechuka forest (excluding the inhabited valley) and Tato areas, extending to the India-Tibet border. Earlier, this IBA included Monigong-Jorgging areas but now they are considered as a separate IBA.

This IBA is a source of many tributaries of the Siang river, including the Siyom. The area is entirely mountainous with a valley at Mechuka, which is excluded from the IBA, as it is inhabited. The vegetation types range from Sub-tropical

Broadleaf and Coniferous forest on the lower slopes and river gorges, to Sub-alpine forest in the higher reaches. The tops and ridges of the Great Himalaya are covered with Sub-alpine and Alpine scrub, while the peaks are barren, and snowcapped for the greater part of the year (Choudhury 2003a).

A large part of this IBA is inaccessible, thus ensuring the existence of pristine wilderness to a great extent. This IBA has a long border with Tibet. Very few surveys were done in the area. A rapid survey under IBCN was carried out in Mechuka-Tato in November 2002 (Choudhury 2003a).



Early morning in the picturesque valley of Mechuka in northern Arunachal Pradesh. This IBA is a large wilderness which extends up to India-China border

AVIFAUNA

At least 140 bird species have been listed, but it is apparent that there may be more than 250. This large IBA with rugged terrain needs many surveys for a full assessment of its rich birdlife. Singh (1994) did not cover the area. So far, the presence of five Vulnerable species has been confirmed. Blyth's Tragopan *Tragopan blythii* and Sclater's Monal *Lophophorus sclateri* occur widely; the Rufous-necked Hornbill *Aceros nipalensis* has been recorded only below Tato. Beautiful Nuthatch *Sitta formosa* was sighted in this IBA. Chestnut-breasted Hill-partridge *Arborophila mandellii* was reported but needs confirmation (Anwaruddin Choudhury, *pers. comm.* 2003).

Although only four restricted-range species were recorded during brief surveys, more species are likely to occur. Among the noteworthy species recorded were Temminck's Tragopan *Tragopan temminckii* and Upland Buzzard *Buteo hemilasius* in Mechuka (Choudhury 2003b).

The site lies in the Eastern Himalaya Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998). Out of the 21 species listed in EBA 130, two have been seen in this IBA, but there are chances that more species are present.

Due to the altitudinal variation from 1,300 m to above 5,000 m, three biomes are found in this IBA: Biome 5 (Eurasian High Montane); Biome 7 (Sino-Himalayan Temperate Forest); and Biome 8 (Sino-Himalayan Subtropical Forest).

OTHER KEY FAUNA

Among the major mammals are the Snow Leopard *Panthera uncia*, Tiger *P. tigris*, Leopard *P. pardus*, Clouded Leopard *Neofelis nebulosa*, Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Musk Deer *Moschus chrysogaster*, and Takin *Budorcas taxicolor* (Choudhury 2003c). Mechuka Giant Flying Squirrel *Petaurista*

VULNERABLE

Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Streak-throated Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>

mechukaensis, new to science, was discovered in this IBA (Choudhury 2007).

LAND USE

- Forestry
- Agriculture

THREATS AND CONSERVATION ISSUES

- Proposed mega hydroelectric projects
- Poaching
- Collection of firewood
- Felling of trees

The major issue now is the massive hydroelectric projects proposed on the River Siang and its main tributary, the Siyom in the neighbourhood of this IBA. A small project is under construction near Tato. Poaching, including trapping of galliforms, is a big problem. Collection of firewood for domestic use and felling of trees are other major issues.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Bikul Goswami, Hakim, Tape Mosing.

KEY REFERENCES

- Choudhury, A.U. (2003a) Survey of birds in Mechuka-Monigong areas of West Siang district, Arunachal Pradesh. Submitted to the Bombay Natural History Society, Mumbai.
- Choudhury, A.U. (2003b) The Rhino Foundation for Nature in NE India, 2002–03. *The Rhino Foundation for Nature in NE India Newsletter* 5: 1–5.
- Choudhury, A.U. (2003c) *The Mammals of Arunachal Pradesh*. Regency Publications, New Delhi.
- Choudhury, A.U. (2007) A new flying squirrel of the genus *Petaurista* Link from Arunachal Pradesh in North-east India. *Newsletter & J. Rhino Foundation NE India* 7: 26–32, pls.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

MEHAO WILDLIFE SANCTUARY

IN-AR-14

IBA Site Code	: IN-AR-14
Administrative Region (State)	: Arunachal Pradesh
District	: Lower Dibang Valley
Coordinates	: 28° 12' 30" N, 95° 49' 11" E
Ownership	: State
Area	: 28,150 ha
Altitude	: 400–3,560 msl

Rainfall	: >2,500 mm
Temperature	: Subzero to 34 °C
Biogeographic Zone	: Himalaya
Habitats	: Tropical Wet Evergreen, Sub-tropical Broadleaf Hill, and Himalayan Wet Temperate Forests, Sub-alpine Moist Scrub

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Wildlife Sanctuary, established December, 1980.



GENERAL DESCRIPTION

This sanctuary was named after the Mehao Lake. The terrain is hilly, clothed with Tropical Evergreen Forests. The understorey is also thickly covered with undergrowth. There are two major lakes inside the sanctuary, Mehao and Sally. Mehao Lake (<200 ha) is situated at an altitude of 1,640 m and Sally (2 ha) at 520 m. Mehao Lake originated as a result of the 1950 earthquake.

Mehao WLS is thinly populated and most of the areas have not yet been named. The lone fair-weather jeepable road passing through the sanctuary from Roing to Hunli (Chakraborty & Sen 1991) is now a metalled road.

Topographically, the terrain is entirely hilly, varying in altitude from 400 m to 3,560 m. A number of perennial fast-flowing streams drain the sanctuary, notably the Ihipani, Eje, Eme, Aba, and Difu. The sanctuary forms part of the catchment area of the Brahmaputra river. Peaks above 2,000 m experience snowfall. The sanctuary is located on the windward side of the Mishmi Hills, so it receives heavy rainfall both from the southwest and the northeast monsoons, experiencing rain nearly half the year (Chakraborty & Sen 1991). Areas converted to *jhum* cultivation earlier are now being covered with bamboo and other secondary vegetation. Cane is common in humid areas.

AVIFAUNA

At least 175 bird species have been recorded in this IBA (Katti *et al.* 1992). Among the Threatened birds, Spotbilled Pelican *Pelecanus philippensis* was recorded just outside the sanctuary in 1994 (Choudhury 2000). White-winged Duck *Asarcornis scutulata* was also recorded from Mehao Lake (Choudhury 1995).

The Wedge-billed Wren-Babbler *Sphenocichla humei*, a restricted-range species, and one of the least known Indian species, has been recorded from this anctuary (Katti *et al.* 1992). It has been collected only three times in the last century, in 1905 by Stevens (1914), in 1938 by Lightfoot (1940), and in 1988 by Ripley *et al.* (1991). It occurs in two races: *humei* and *roberti*. Rasmussen & Anderton (2012) have elevated these races to full species: Sikkim Wedge-billed Babbler *Sphenocichla humei* and Cachar Wedge-billed Babbler *Sphenocichla roberti*. This would qualify one or both for Threatened status (BirdLife International 2001). Ali & Ripley (1987) also considered both subspecies as very rare residents.

Abidur Rahman (*pers. comm.* 2014) states that this amazing sanctuary has a total of more than 400 species of birds reported till now. Birds which may have good populations are Mishmi Wren-babbler or Rusty-throated Wren-babbler *Spelaeornis badeigularis* (VU), Sclater's Monal *Lophophorus sclateri* (VU), Blyth's Tragopan *Tragopan blythii* (VU), Temminck's Tragopan *Tragopan temminckii*, and Rusty-bellied Shortwing *Brachypteryx hypertyra* (NT). Rufous-necked Hornbill *Aceros nipalensis* (VU) is also seen, but it is not as common as in Namdapha or



Blackish-breasted Babbler *Sphenocichla humei*, earlier known as Wedged-billed Babbler, is one of the restricted-range species of Nepal, Bhutan, and India

ENDANGERED

White-winged Duck	<i>Asarcornis scutulata</i>
-------------------	-----------------------------

VULNERABLE

Great Pied Hornbill	<i>Buceros bicornis</i>
Chestnut-breasted Partridge	<i>Arborophila mandellii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Purple Wood-pigeon	<i>Columba punicea</i>
Chestnut-breasted Hill-partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>

NEAR THREATENED

Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Ward Trogon	<i>Harpactes wardi</i>
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Chestnut-breasted Hill-partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Streak-throated Barwing (?)	<i>Actinodura waldeni</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Warbler	<i>Tickellia hodgsoni</i>

Eaglenest WLS. Other species such as Great Pied Hornbill *Buceros bicornis* (VU), Chestnut-breasted Partridge *Arborophila mandellii* (VU), Beautiful Nuthatch *Sitta formosa* (VU), Ward's Trogon *Harpactes wardi* (NT), and Yellow-rumped Honeyguide *Indicator xanthonotus* (NT) are also reported. Bengal Florican has been deleted from the records as it is reported well outside the sanctuary, in Dibang Reserve Forest, another IBA.

This IBA has a good diversity of other Himalayan birds, such as Green Cochoa *Cochoa viridis*, Purple Cochoa *Cochoa purpurea*, Slender-billed Scimitar-babbler *Xiphirhynchus supercilialis*, Bar-winged Wren-babbler *Spelaeornis troglodytoides*, Himalayan Cutia *Cutia nipalensis*, Indian White-hooded Babbler *Gampsorhynchus rufulus*, Black-headed Shrike-babbler *Pteruthius rufiventer*, and Pale-headed Woodpecker *Gecinulus grantia*.

Stattersfield *et al.* (1998) have identified Endemic Bird Areas (EBA) of the world and listed the restricted-range species found in each EBA. In the Eastern Himalaya EBA 130, 21 species are found in India, out of which 9 have been reported from Mehao. This makes Mehao one of the richest IBAs in terms of restricted-range species among the IBAs of EBA 130.

Due to altitudinal variation from 400 m to 3,560 m, this site has three biomes: Biome 7 (Sino-Himalayan Temperate Forest), Biome 8 (Sino-Himalayan Subtropical Forest), and Biome 9 (Indo-Chinese Tropical Moist Forest). A total of 60 biome-restricted species are found in this IBA, which are too many to list here.



ANWARUDDIN CHOUDHURY

The Deopani river in Mehao Wildlife Sanctuary is known for its flash floods. This IBA is unique in that one can drive through a good road from tropical rain forest to the snow line (in winter) within two hours!

OTHER KEY FAUNA

Chakraborty & Sen (1991) have recorded 66 mammals from this IBA. Five primates have been recorded, of which Capped Langur *Trachypithecus pileatus* and Slow Loris *Nycticebus bengalensis* are uncommon (Chakraborty & Sen 1991). Red Panda *Ailurus fulgens* is found at higher elevations only. Seven species of felids are reported, of which the occurrence of Snow Leopard *Panthera uncia* is doubtful (Anwaruddin Choudhury, *pers. comm.* 2014). Sinha (1984) reported the Clouded Leopard *Neofelis nebulosa*. Marbled Cat *Pardofelis marmorata* is extremely rare in this IBA.

Mehao is home to a newly described subspecies of Hoolock Gibbon, the Mishmi Hills Hoolock *Hoolock hoolock mishmiensis* (Choudhury 2013a). Among other notable mammals there are the Sambar *Rusa unicolor*, Barking Deer or Red Muntjac *Muntiacus muntjack*, Gongshan Muntjac *M. gongshanensis*, Leaf Deer *M. putaoensis*, Takin *Budorcas taxicolor*, Red Goral *Naemorhedus baileyi*, and Himalayan Serow *Capricornis thar* (Choudhury 2013b).

Not much information is available on reptiles and amphibians.

LAND USE

- Nature reserve
- Tourism and recreation
- Agriculture (*jhum*)

THREATS AND CONSERVATION ISSUES

- Encroachment
- Timber operations
- Occasional poaching
- Road construction and maintenance

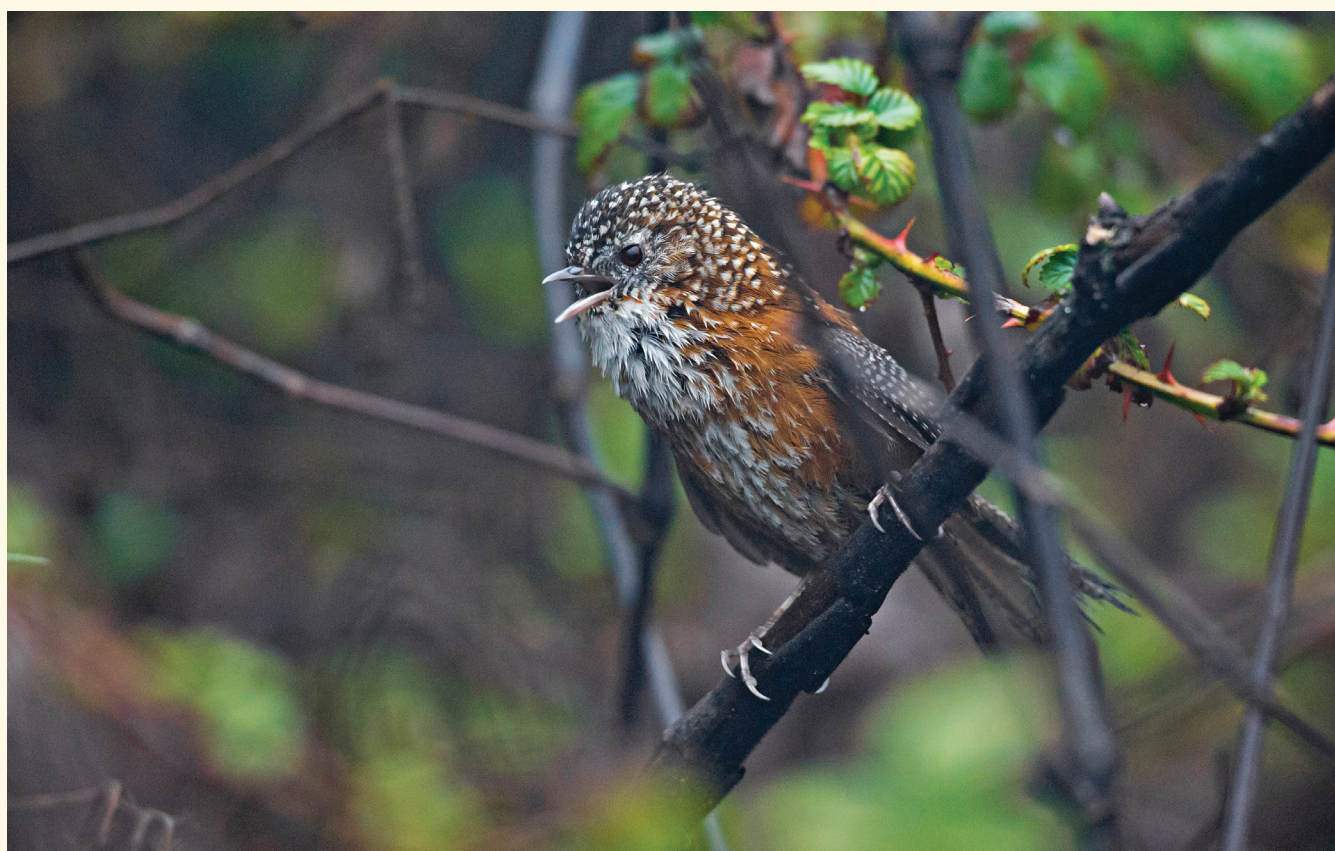
Human pressure seems negligible at this stage, however, wherever there was presence of labourers for road construction there is evident decline of wildlife. For instance, 1940 camera trap hours (six cameras) around Myodiya in October 2013 produced only a lone immature Wild Pig *Sus scrofa* (Anwaruddin Choudhury, *pers. comm.* 2014). Though the terrain is rugged, human pressure may increase in future for maintenance of the road that passes through the sanctuary and due to its being close to Roing town. Occasional hunting in the Sanctuary and *jhum* cultivation are prevalent on the fringes.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Kulojyoti Lahkar, Madhusudan Katti, Abidur Rahman.

KEY REFERENCES

- Ali, S. and Ripley, S.D. (1987) *Compact Edition of the Handbook of the Birds of India and Pakistan*. Oxford University Press, Bombay.
- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Chakraborty, S. and Sen, A.K. (1991) Mammals of the Mehao Wildlife Sanctuary (Dibang Valley District, Arunachal Pradesh)



DRITIMAN MUKHERJEE

Bar-winged Wren-babbler *Spelaeornis troglodytoides* is an uncommon bird of broadleaf evergreen forest and bamboo thicket of the Eastern Himalayas

- with remarks on their status. *Rec. zool. Surv. India* 88(3&4): 263–285.
- Choudhury, A.U. (1995) White-winged Wood Duck in Mehao and Pakhui Sanctuaries, Arunachal Pradesh. *IWRB TWRG Newsletter* 7: 12.
- Choudhury, A.U. (2000) *The Birds of Assam*. Gibbon Books and World Wide Fund for Nature-India, Northeast Regional Office, Guwahati. Pp. 240.
- Choudhury, A.U. (2013a) Description of a new subspecies of Hoolock gibbon *Hoolock hoolock* from North East India. *Newsletter & J. Rhino Foundation NE India* 9: 49–59.
- Choudhury, A.U. (2013b) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India, 432 pp.
- Katti, M., Singh, P., Manjrekar, N., Sharma, D., and Mukherjee, S. (1992) An ornithological survey in eastern Arunachal Pradesh, India. *Forktail* 7: 75–89.
- Lightfoot, G.S. (1940) On the occurrence of Hume's Wedge-billed Wren (*Sphenocichla humei* Mandelli) in the Aka Hills, Assam. *JBNHS* 41: 418–420.
- Rasmussen, P.C. and Anderton, J.C. (2012) *Birds of South Asia: The Ripley Guide*. 2 Vols, 2nd edn. Smithsonian Institution and Lynx Edicions, Washington, D.C. and Barcelona.
- Ripley, S.D., Saha, S.S., and Beehler, B.M. (1991) Notes on birds from the Upper Nao Dihing, Arunachal Pradesh, Northeastern India. *Bull Brit. Orn. Club* 111(1): 19–28.
- Sinha, B.C. (1984) A write up on Mehao Wildlife Sanctuary. Unpubl.
- Stattersfield, A.J., Crosby M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.
- Stevens, H. (1914) Notes on the birds of upper Assam. *JBNHS* 23: 234–268.

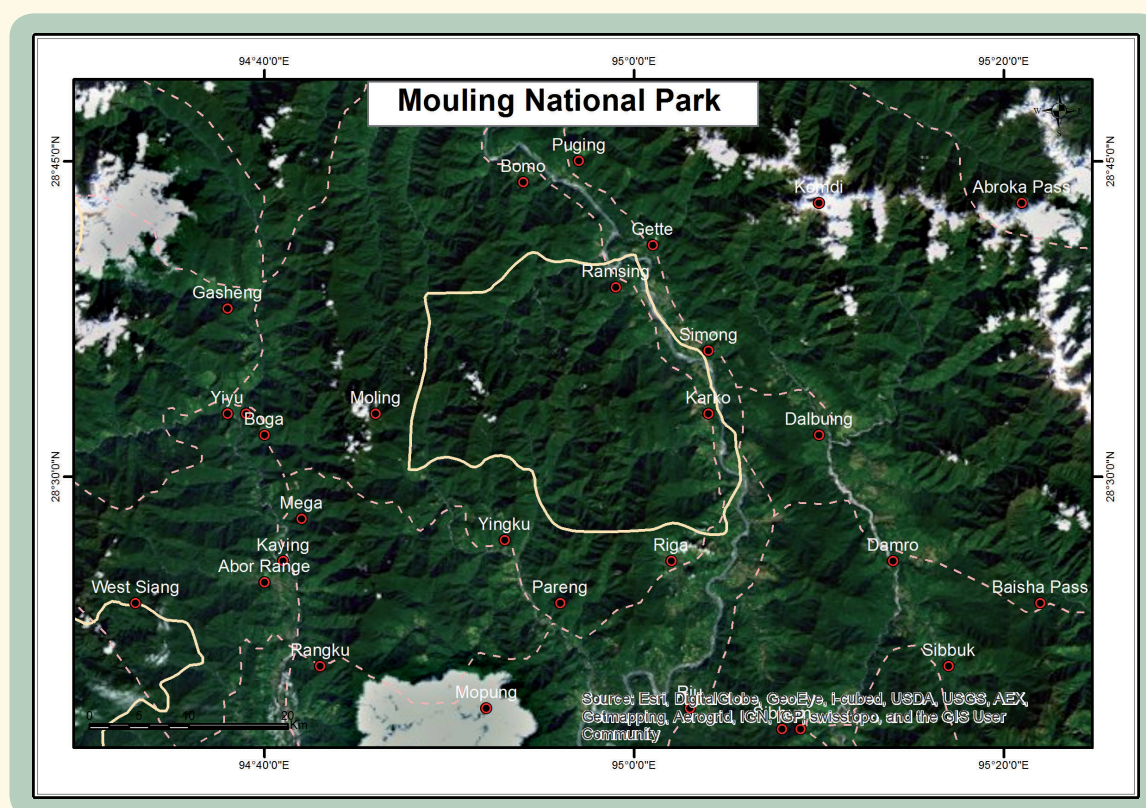
MOULING NATIONAL PARK

IN-AR-15

IBA Site Code	: IN-AR-15	Altitude	: 750–3,064 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >2,300 mm
District	: Upper, East, and West Siang	Temperature	: Subzero to 30 °C
Coordinates	: 28° 32' 27" N, 94° 45' 56" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Tropical Evergreen, Tropical Semi-evergreen, Sub-tropical and Temperate Broadleaf and Coniferous Forests, Bamboo brakes and Secondary forest
Area	: 48,300 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : National Park, established December, 1986.



GENERAL DESCRIPTION

Mouling National Park is located in the Abor Hills of the Eastern Himalaya, adjoining the Siang river valley. The area is c. 175 km away from Pasighat, the district headquarters of East Siang district. The park headquarters are located at Jengging. The whole terrain is mountainous, and the Siang river is an imposing feature of the landscape, carving its bed through rugged mountains. The steep slopes are well drained by a number of streams flowing swiftly down to the deep Siang valley.

The entire national park is intersected with numerous rivers and rivulets which ultimately join the Siyum and

Siang rivers. These two rivers flow from the east to the southwest side of the IBA. Other important rivers are Siring, Subong, Krobong, and Semong, which originate in the park.

The forests covering the area can be divided into the following categories: Tropical Evergreen, Tropical Semi-evergreen, Sub-tropical and Temperate Broadleaf and Coniferous, Bamboo brakes, and secondary forest.

AVIFAUNA

This site is extremely rich in bird diversity. The combined lists of Katti *et al.* (1992), Haridasan *et al.* (1999), and

Birand & Pawar (2001) total c. 225 bird species. However, none of these surveys actually penetrated the depths of the national park, covering only its fringes, which indicates its remoteness. Choudhury (2008) also covered similar areas.

The most notable among birds is the Chestnut-breasted Partridge *Arborophila mandellii*. This species had not been sighted for a long time, in its entire range of distribution. Surprisingly, the bird was recorded as fairly common during a study in April, 1995 by the State Forest Research Institute and Forest Department of Arunachal Pradesh, at the periphery of Mouling National Park near Seet (Haridasan *et al.* 1999). Singh (1999), in March 1998, heard it very often near Seet at about 1,650 m, in sub-tropical broadleaf hill forest with dense bamboo undergrowth. Due to its small, apparently fragmented population, it is considered Vulnerable (BirdLife International 2001).

In March 1998, a group of more than six Wedge-billed Wren-babbler *Sphenocichla humei* were seen near Seet in sub-tropical forest with bamboo undergrowth at 1,635 m (Singh 1999). The birds were black underneath, pointing to subspecies *S. h. humei*. Rasmussen & Anderton (2012) have elevated these races to full species: Sikkim Wedge-billed Babbler *Sphenocichla humei* and Cachar Wedge-billed Babbler *Sphenocichla roberti*. This would qualify one or both for Threatened status (BirdLife International 2001). Ali & Ripley (1987) also considered both subspecies as “very rare resident”. *S. h. humei* is found in Sikkim and Arunachal Pradesh, and BirdLife International (2001) has included West Bengal also in its distribution.

Mouling NP comes under the Eastern Himalaya Endemic Bird Area 130 (Stattersfield *et al.* 1998). Of the 21 species of this EBA, nine have been found at this site.

Two biomes are represented in this IBA: Biome 7 (Sino-Himalayan Temperate Forest) and Biome 8 (Sino-Himalayan Subtropical Forest). A small part, mainly below 1,000 m, comes under Biome 9 (Indo-Chinese Tropical Moist Forest). BirdLife International has listed 112 species in Biome 7, out of which 14 are found in Moulin NP. This site appears to be a very good representation of Biome 8 (Sino-Himalayan Subtropical Forest) as 40 out of 96 Biome 8 species are found here. Biome 9 (Indo-Chinese Tropical Moist Forest) that has only 19 species is represented by six at this site.

It is not possible to list all the species here, but interesting species found in Mouling are: Common Hill-partridge *Arborophila torqueola*, Rufous-throated Hill-partridge *A. rufogularis*, White-cheeked Hill-partridge *A. atrogularis*, Long-tailed Thrush *Zoothera dixonii*, Grey-cheeked Flycatcher-warbler *Seicercus poliogenys*, White-spectacled Flycatcher-warbler *Seicercus affinis*, Rufous-faced Flycatcher-warbler *Abroscopus albogularis*, Black-faced Flycatcher-warbler *A. schisticeps*, Maroon-backed Accentor *Prunella immaculata*, Black-backed Forktail *Enicurus immaculatus*, Lesser Necklaced Laughingthrush

Garrulax monileger, Greater Necklaced Laughingthrush *G. pectoralis*, Rufous-necked Laughingthrush *G. ruficollis*, and Sultan Tit *Melanochlora sultanea*.

VULNERABLE

Chestnut-breasted Partridge	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Chestnut-breasted Hill-partridge	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Warbler	<i>Tickellia hodgsoni</i>

OTHER KEY FAUNA

The area has rich biodiversity. Among the mammals, Tiger *Panthera tigris*, Leopard *P. pardus*, Red Panda *Ailurus fulgens*, Goral *Naemorhedus goral*, Himalayan Serow *Capricornis thar*, and Takin *Budorcas taxicolor* are noteworthy (Haridasan *et al.* 1999). Other mammals found in the area are Assamese Macaque *Macaca assamensis*, Capped Langur *Trachypithecus pileatus*, Leopard Cat *Prionailurus bengalensis*, Small Indian Civet *Viverricula indica*, Himalayan Palm Civet *Paguma larvata*, Spotted Linsang *Prionodon pardicolor*, Indian Wild Dog *Cuon alpinus*, and Asiatic Black Bear *Ursus thibetanus*.

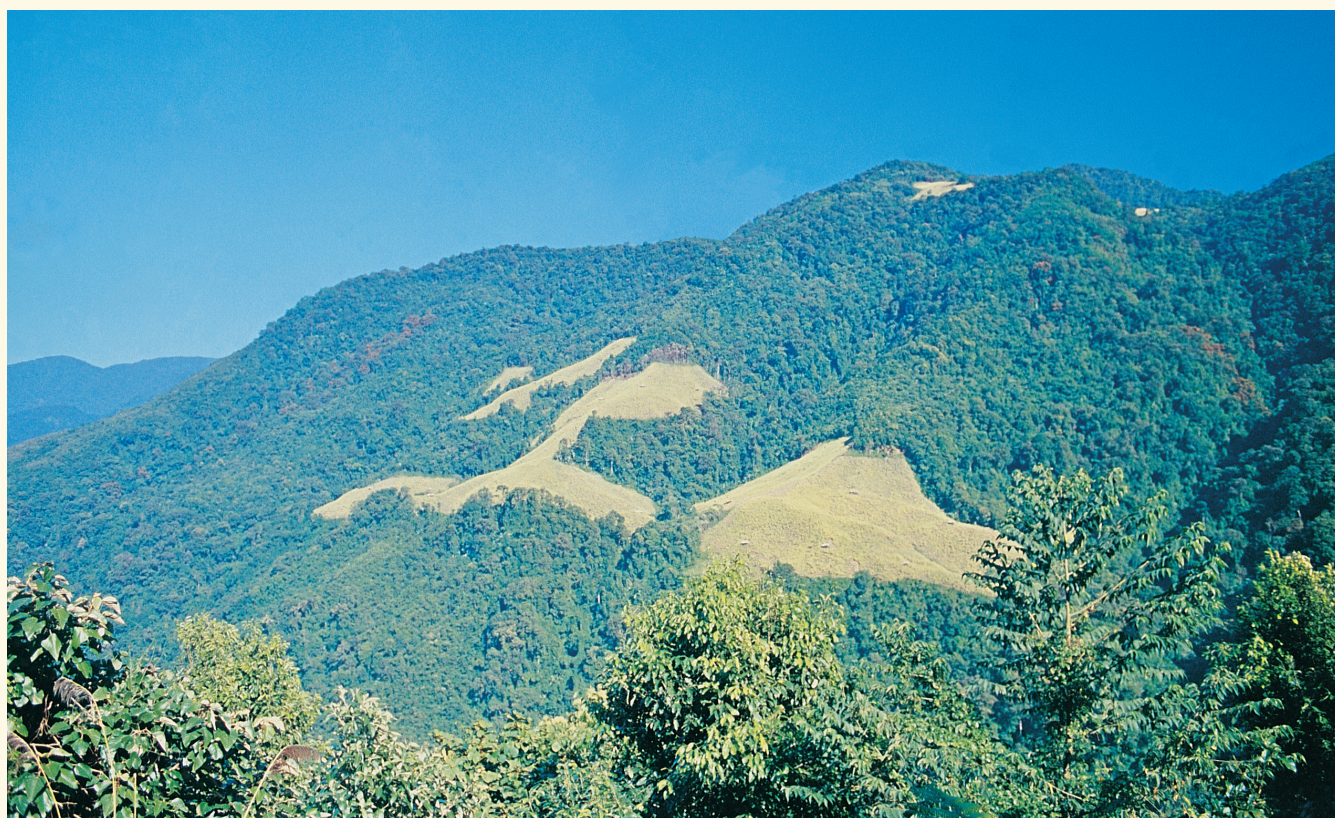
A total of 24 species of amphibians and 39 species of reptiles, of which 14 are lizards, have been reported from this IBA (Pawar & Birand 2001). Some of the interesting species of amphibians and reptiles are: Boettger's Xenophrys *Xenophrys boettgeri*, North-western Trickle Frog *Occidozyga borealis*, and Pied Theloderma *Theloderma asperum* (Pawar & Birand 2001).

LAND USE

- Forestry
- Tourism
- Nature conservation and research

THREATS AND CONSERVATION ISSUES

- Poaching
- Increasing human dependence on natural resources



ANWARUDDIN CHOUDHURY

Jhum cultivation outside Mouling National Park. Such shifting cultivation has already destroyed many forest areas across Arunachal Pradesh and in other northeastern states.

The current level of human use appears to be sustainable. Occasional forays for hunting made by local people who have better access to the area by virtue of the location of their village (e.g., Bomdo) appear to be the only human disturbance. The majority of people are dependent on *jhum* cultivation and forest resources (Birand & Pawar 2001).

KEY CONTRIBUTORS

Kulojyoti Lahkar, K. Haridasan, A. Birand.

KEY REFERENCES

- Ali, S. and Ripley, S.D. (1987) *Compact Edition of the Handbook of the Birds of India and Pakistan*. Oxford University Press, Bombay.
- Birand, A. and Pawar, S. (2001) A survey of birds in the northeast India. Final Report, Centre for Ecological Research and Conservation, Mysore.
- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Choudhury, A.U. (2008) Survey of mammals and birds in Dihang-Dibang Biosphere Reserve, Arunachal Pradesh. Final report to Ministry of Environment & Forests, Government of India. The Rhino Foundation for Nature in NE India, Guwahati, India. 70 pp.
- Haridasan, K., Borang, A., and Singh, P. (1999) Baseline survey of biodiversity in high priority biological rich areas of Arunachal Pradesh. State Forest Research Institute, Itanagar.
- Katti, M., Singh, P., Manjrekar, N., Sharma, D., and Mukherjee, S. (1992) An ornithological survey in eastern Arunachal Pradesh, India. *Forktail* 7: 75–89.
- Pawar, S. and Birand, A. (2001) A survey of amphibians, reptiles and birds in Northeast India. CERC Technical Report 6. Centre for Ecological Research and Conservation, Mysore. Pp. 118.
- Rasmussen, P.C. and Anderton, J.C. (2012) *Birds of South Asia: The Ripley Guide*. Vols 1 & 2, 2nd edn. National Museum of Natural History – Smithsonian Institution, Michigan State University, and Lynx Edicions, Washington, D.C., Michigan, and Barcelona.
- Singh, P. (1999) Bird survey in selected localities of Arunachal Pradesh, India. Wildlife Institute of India, Dehradun.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

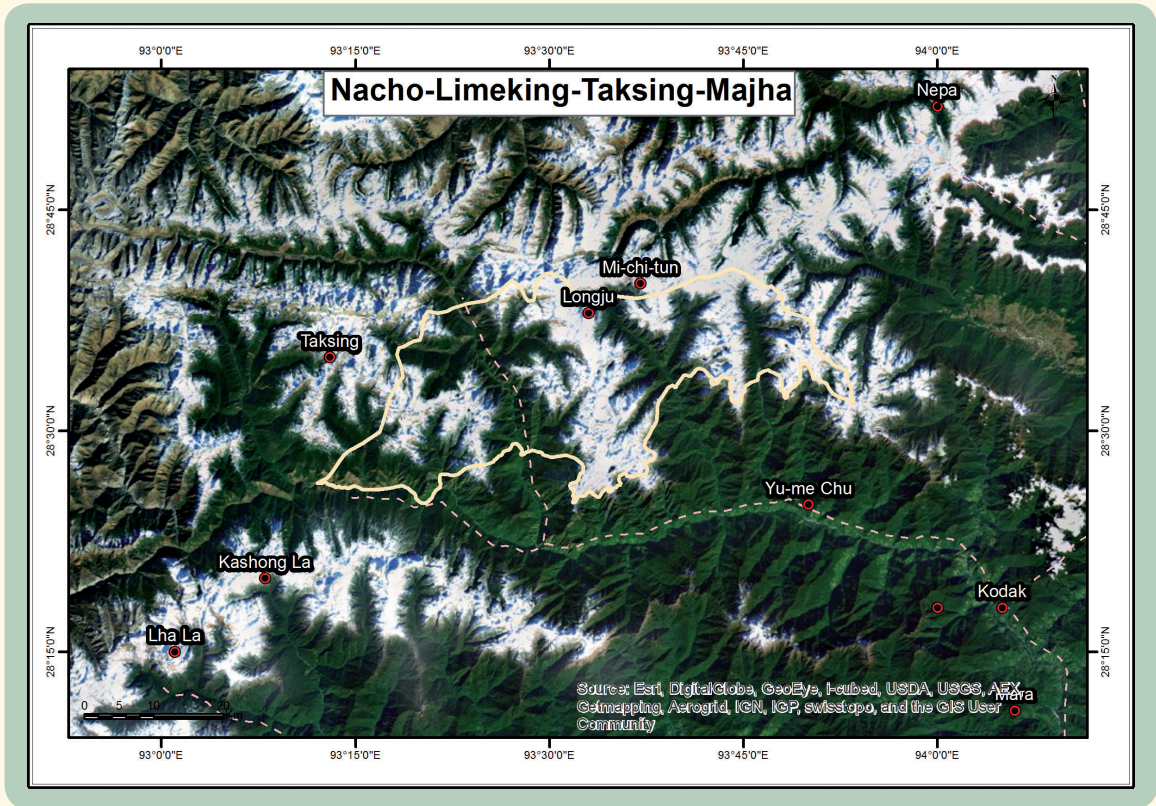
NACHO-LIMEKING-TAKSING-MAJHA

IN-AR-16

IBA Site Code	: IN-AR-16	Rainfall	: 1,500 mm
Administrative region (State)	: Arunachal Pradesh	Temperature	: 0 °C to 28 °C
District	: Upper Subansiri	Biogeographic Zone	: Himalaya
Coordinates	: 28° 34' 60" N, 93° 31' 00" E	Habitats	: Tropical Wet Evergreen, Sub-tropical Broadleaf Hill Forest, Temperate Broadleaf and Coniferous Forests, Sub-alpine Scrub
Ownership	: Private land		
Area	: c. 200,000 ha		
Altitude	: 800–4,500 msl		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

Nacho-Limeking-Taksing-Majha is a large area in Upper Subansiri district in northern Arunachal Pradesh, close to the Indo-Tibetan border. The area is largely mountainous, with a number of peaks rising over 4,000 m. The River Subansiri, which originates in Tibet, flows through this IBA. The area is also criss-crossed by a number of streams and small rivers that drain into the Subansiri. Most of the forest is inaccessible and remains untouched. Road network is limited and the remoteness of the site has left a large extent of habitat intact. Local inhabitants are mainly Tagin tribals and human settlements are minimal.

In the lower reaches, below 1,500 m, elements of Tropical Wet Evergreen to Subtropical Broadleaf Forests are found. Himalayan Wet Temperate Forest, mixed with Bamboo and Cane, is found in the intermediate elevations from 1,500 to 3,000 m.

AVIFAUNA

Not much information is available on the birdlife, except for the general report of Singh (1994), in which he has described birds during his various surveys of the state. However, site-wise detailed lists are not available.

A significant discovery from this area is a new monal subspecies *arunachalensis* of *Lophophorus sclateri*. The males of the new monal appeared very similar to the male of Sclater's Monal *Lophophorus sclateri*, except for the completely white tail in the former. This was reported by local hunters of the Sarli Circle in Lower Subasiri district who also go for hunting to the Taksing area (Kumar & Singh 1999).

The Honeyguide *Indicator xanthonotus* has been recorded here (R. Suresh Kumar, *pers. comm.* 2003).

Of the 21 species found in the Eastern Himalaya Endemic Bird Area (Stattersfield *et al.* 1998), 12 have been reported from this IBA. There are not many IBAs in this EBA where so many restricted-range species are found.

Four biomes are represented in this IBA: Biome 5 (Eurasian High Montane – Alpine and Tibetan), Biome 7 (Sino-Himalayan Temperate Forest), Biome 8 (Sino-Himalayan Subtropical Forest), and Biome 9 (Indo-Chinese

VULNERABLE

Chestnut-breasted Hill-partridge (?)	<i>Arborophila mandellii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon (?)	<i>Harpactes wardi</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hypertyra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Chestnut-breasted Hill-partridge (?)	<i>Arborophila mandellii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Ward's Trogon (?)	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hypertyra</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
Streak-throated Barwing (?)	<i>Actinodura waldeni</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-browed Leaf-warbler	<i>Phylloscopus cantator</i>
Yellow-vented Warbler	<i>Tickellia hodgsoni</i>

Tropical Moist Forest). It is beyond the scope of this book to list all the species here.

OTHER KEY FAUNA

Not much information is available on the fauna of this large area. However, Takin *Budorcas taxicolor* (ssp. *whitei* or Bhutan Takin), Himalayan Serow *Capricornis thar*, Himalayan Goral *Naemorhedus goral*, Red Panda *Ailurus fulgens*, Capped Langur *Trachypithecus pileatus*, and Assamese Macaque *Macaca assamensis* have been recorded. There are potential areas for Snow Leopard *Panthera uncia* (A.U. Choudhury, *pers. comm.* 2003).



ANWARUDDIN CHOUDHURY

The Red Panda *Ailurus fulgens* is one of the most popular small mammals due to its innocent look and antics

The Bharal or Blue Sheep *Pseudois nayaur* was recorded from the Taksing area (R. Suresh Kumar, *pers. comm.* 2003) which is also recorded in other high elevation areas like Tawang, West Kameng, East Kameng, Upper Siang, West Siang, Dibang Valley, and Anjaw districts.

LAND USE

- Forestry
- Agriculture

THREATS AND CONSERVATION ISSUES

- Hunting
- Felling of trees
- Road construction

The proposed Upper Subansiri Hydro-electric Project will have some impact on these sites (A.U. Choudhury, *pers. comm.* 2003). Hunting is a major threat to the wildlife in the area and species such as Musk Deer *Moschus* spp., Asiatic Black Bear *Ursus thibetanus*, Sclater's Monal *Lophophorus sclateri*, and Temminck's Tragopan *Tragopan temminckii* are much sought after (R. Suresh Kumar, *pers. comm.* 2003).

KEY CONTRIBUTORS

R. Suresh Kumar, Pratap Singh, Bharat Bhushan Bhatt, Anwaruddin Choudhury.

KEY REFERENCES

- Kumar, R.S. and Singh, P. (1999) Discovery of a new monal from Arunachal Pradesh. *Oriental Bird Club Bull.* 30: 35–38.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp.846.

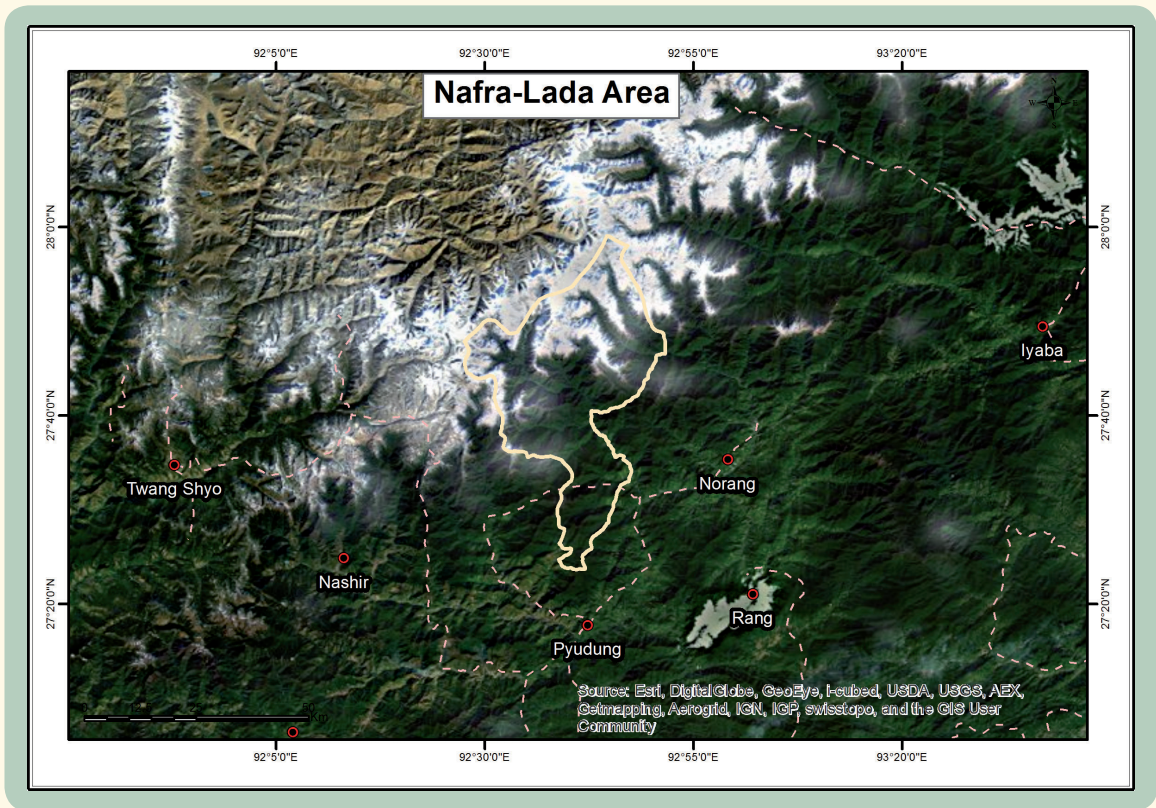
NAFRA-LADA AREA

IN-AR-17

IBA Site Code	: IN-AR-17	Altitude	: 600–7,000 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >1,500 mm
District	: West Kameng, East Kameng	Temperature	: Subzero to 30 °C
Coordinates	: 27° 46' 24" N, 93° 10' 05" E	Biogeographic Zone	: Himalaya
Ownership	: Unclassified State Forest, Private land, Community land	Habitats	: Tropical Semi-evergreen, Sub-tropical Broadleaf Hill Forest, Sub-tropical Pine Forest, Sub-alpine Scrub, Alpine Pasture
Area	: c. 65,000 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

This IBA extends from the Nafra locality in West Kameng district to the Lada border post in East Kameng district, in the remote interior of Arunachal Pradesh. It is largely montane, and access to most parts is possible only on foot. The IBA is bordered to the north by the snow-covered peaks of the Great Himalayan Range from which the Kameng, a major river of the state originates. Due to its remoteness, the habitat is still intact; the forests, especially in the interior, are untouched and pristine. Human habitations and *jhum* (slash-and-burn) cultivation is minimal, and mostly restricted to areas below 1,800 m. A road to Lada is now under construction.

AVIFAUNA

The avifauna of this IBA has not been recorded completely. During a preliminary short survey, c. 85 bird species were recorded. The new subspecies of Sclater's Monal *Lophophorus sclateri* that was discovered in the neighbouring Lower Subansiri district (Kumar & Singh 1999) also occurs here. This subspecies is restricted to the interior areas in the western part of the state and is likely to be endemic to India. Two species of tragopan, Temminck's Tragopan *Tragopan temminckii* and the Vulnerable Blyth's Tragopan *Tragopan blythii* are recorded (Kumar 2003). Rufous-necked Hornbill *Aceros nipalensis*, another Vulnerable species (BirdLife

International 2001), is found in the lower areas (Choudhury 2002). Among other noteworthy birds are the Blood Pheasant *Ithaginis cruentus* and Snow Partridge *Lerwa lerwa* in the high elevations of the northern part of this IBA, and Kaleej Pheasant *Lophura leucomelanos* in the middle and lower areas. The Common Hill-partridge *Arborophila torqueola* is frequently seen all over. Two other high elevation galliforms that might occur are the Tibetan Snowcock *Tetraogallus tibetanus* and the Tibetan Partridge *Perdix hodgsoniae* (Anwaruddin Choudhury, pers. comm. 2014).

This site lies in the Eastern Himalaya Endemic Bird Area EBA 130 (Stattersfield *et al.* 1998). Of the 21 species of this EBA, eight are found in the area.

Due to altitudinal variation from 600 m to 7,000 m, four biomes are represented in this IBA: Biome 9 (Indo-Chinese Tropical Moist Forest) below 1,000 m; Biome 8 (Sino-Himalayan Subtropical Forest) from 1,000 m to 2,000 m; Biome 7 (Sino-Himalayan Temperate Forest) from 1,800 m to 3,600 m; and Biome 5 (Eurasian High Montane) above 3,600 m. As a complete checklist is not available, it is difficult to say how many biome-restricted species are found at this site. However, considering the pristine forests, the list would be quite long.

VULNERABLE

Chestnut-breasted Hill-partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Slater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Chestnut-breasted Hill-partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Slater's Monal	<i>Lophophorus sclateri</i>
Hoary-throated Barwing (?)	<i>Actinodura nipalensis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Warbler (?)	<i>Tickellia hodgsoni</i>

OTHER KEY FAUNA

This IBA is rich in high altitude mammalian diversity, as is evident from skins, skulls, and other body parts seen in the villages located in the fringe. The Alpine Musk Deer *Moschus chrysogaster*, Black Musk Deer *M. fuscus*, Bharal *Pseudois nayaur*, Takin *Budorcas taxicolor*, Himalayan Goral *Naemorhedus goral*, Himalayan Serow *Capricornis thar*, Snow Leopard *Panthera uncia*, Pale Weasel *Mustela altaica*, Red Fox *Vulpes vulpes*, and Himalayan Marmot *Marmota himalayana* are recorded. Other noteworthy mammals found are Dhole *Cuon alpinus*, Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Eurasian Otter *Lutra lutra*, Asian Golden Cat *Catopuma temminckii*,

Barking Deer *Muntiacus muntjak*, Assamese Macaque *Macaca assamensis*, and Capped Langur *Trachypithecus pileatus* (Choudhury 2013).

LAND USE

- Forestry
- Agriculture

THREATS AND CONSERVATION ISSUES

- Hunting
- Yak grazing
- *Jhum* cultivation

This site is important as it holds some little known threatened mammals and birds, and has not been adequately explored floristically. Projects relating to illegal trade in wildlife and the conservation of species such as the Musk Deer need to be taken up in this area. Takins are shot in winter for meat when they move to middle elevations.

There is no large-scale commercial logging in this IBA, mainly due to lack of roads. Habitat loss due to *jhum* cultivation, however, is a serious threat, but it is restricted to areas below 1,800 m. Close to Nafra locality, primary forests have been lost to *jhum*, and the abandoned areas have now been taken over by Blue Pine *Pinus wallichii* plantations. In East Kameng district, *jhum* cultivation is intensive and in some areas the mountain slopes are completely barren. Hunting, as in the rest of the state, is widespread and bird species such as Monal and Tragopan are much sought after for their skins and feathers. Among mammals, Musk Deer and Black Bear are the most persecuted for their valuable body parts. The rivers and streams are regularly dynamited for fish.

KEY CONTRIBUTORS

R. Suresh Kumar, Anwaruddin Choudhury.

KEY REFERENCES

- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Choudhury, A.U. (2002) Biodiversity survey in the upper areas of East Kameng district, Arunachal Pradesh. Final Report of Phase I. WWF-India. Guwahati. Pp. 12.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- Kumar, R.S. (2003) A report on a few selected Important Bird Areas of Arunachal Pradesh. Submitted to the IBCN-BNHS, Mumbai. Unpubl.
- Kumar, R.S. and Singh, P. (1999) Discovery of a new monal from Arunachal Pradesh. *Oriental Bird Club Bull.* 30: 35–38.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

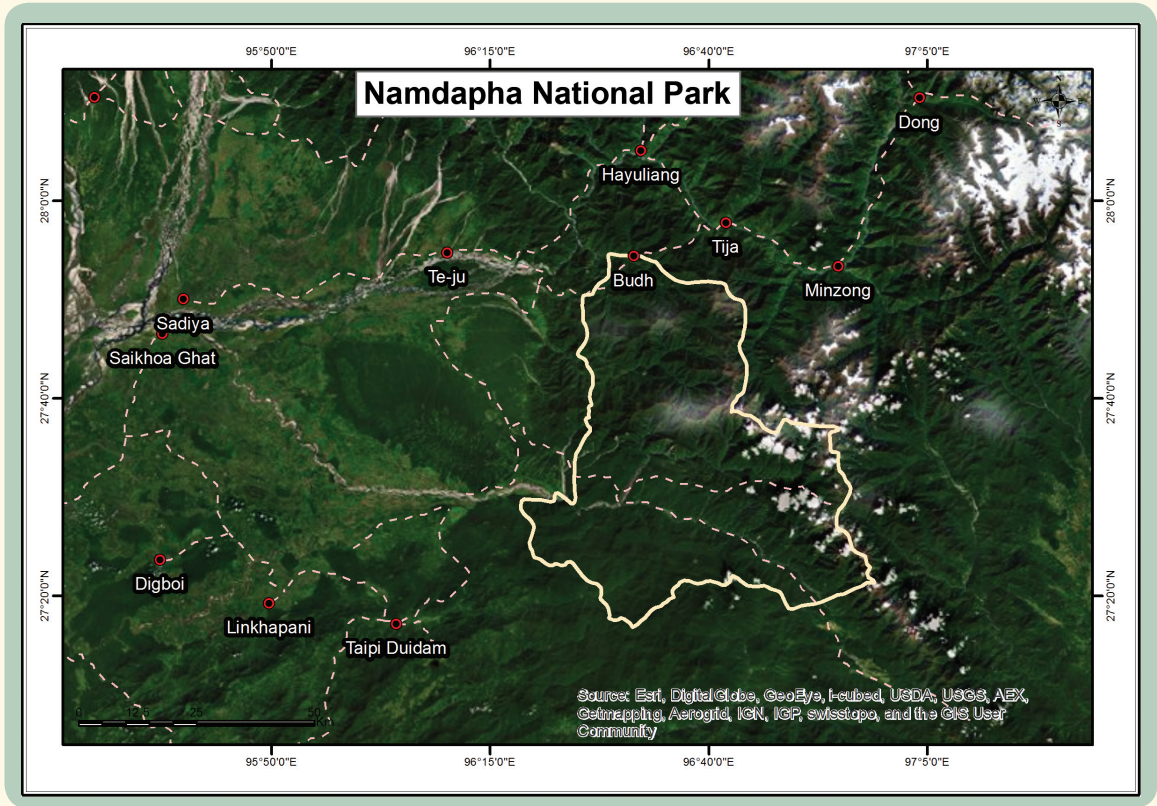
NAMDAPHA NATIONAL PARK

IN-AR-18

IBA Site Code	: IN-AR-18	Rainfall	: 2,500–3,500 mm
Administrative Region (State)	: Arunachal Pradesh	Temperature	: Subzero to 32 °C
District	: Changlang, Lohit	Biogeographic Zone	: Himalaya
Coordinates	: 27° 38' 30" N, 96° 37' 45" E	Habitats	: Tropical Wet Evergreen Forest, Sub-tropical Broadleaf Forest, Montane Wet Temperate Forest, Sub-alpine Scrub
Ownership	: State		
Area	: 198,500 ha		
Altitude	: 200–4,578 msl		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : National Park, established June 9, 1983.



GENERAL DESCRIPTION

Namdapha National Park (198,500 ha) is situated at the southeastern tip of Arunachal Pradesh and bounded by the international boundary with Myanmar to the south and east. Namdapha lies in Changlang and Lohit districts. Namdapha was declared as a wildlife sanctuary in 1972, and as a tiger reserve in March, 1983, followed by a notification as Namdapha National Park on June 9, 1983. Namdapha has been proposed as a biosphere reserve also. A part of Kamlang RF was declared as Kamlang Wildlife Sanctuary in 1989, and together both form a large wilderness. In this book, we are considering Kamlang as a separate IBA.

Namdapha comprises the catchment of the Noa-Dihing river, a tributary of the River Lohit. The Noa-Dihing originates in the mountains on the India-Myanmar border and flows westwards through the park before joining the Lohit river, which ultimately drains into the Brahmaputra river in the Assam Valley.

Lakes, locally known as *beels*, are scattered throughout the area and attract migratory waterfowl. Also in abundance are salt licks or *poongs*, of which Bulbulia was famed for its congregations of Asiatic Elephant and other large mammals, but due to extensive poaching such sights are now rare. Details of the geology and topography are given by Ghosh (1987).



RANJAN KUMAR DAS

In India, Namdapha National Park is the best area for the Critically Endangered White-bellied Heron *Ardea insignis*.
This large and shy bird lives in undisturbed forest streams and rivers.
The picture below was taken in Bhutan and is being used for representational purposes



YESHEY DORJI

Dapha Bum (bum = peak or ridge), the highest point in this IBA, separates Namdapha from Kamlang. This IBA is a continuous stretch of virgin forest, and harbours perhaps the most diverse assemblage of species in India.

Due to great altitudinal variation, diverse habitats occur in the area, from Tropical Wet Evergreen in the lower areas to Sub-tropical and Temperate Forests in the higher mountains. The Dapha Bum area bears Sub-alpine and Alpine Scrub.

The geography of the area is dominated by Dapha Bum and the river valleys of Noa-Dihing and its tributary, the Namdapha. The terrain is rugged, with hardly any flat area outside the flood plains of the two rivers (Athreya *et al.* 1997)

Namdapha TR does not have any resident human population within its boundaries. However, there are some encroachments by Lisu tribals towards the east. The dominant tribes around Namdapha are the Singphone, Tangsa, Lisu, and Chakma.

The climate is tropical and sub-tropical, with a distinct cold season from December to February. Temperature varies from 5 °C to 35 °C at lower altitudes and drops to below freezing point at higher altitudes. July and August are the warmest months. Mean annual precipitation varies from 2,500 mm to 3,500 mm, 75% of which falls between April and October, during the southwest monsoon. The rest is received from the northeast monsoon, from December to March (Chatterjee & Chandiramani 1986). According to Forest Department sources, the total annual precipitation is 6,300 mm (Ghosh 1987). It rains for almost eight months a year, with only November as a really dry month.

AVIFAUNA

Namdapha is one of the most biologically diverse IBAs in India. Its avifauna is a unique blend of four biomes (Sino-Himalayan Temperate, Sino-Himalayan Sub-tropical, Indo-Chinese Tropical Moist Forest, and Eurasian High Montane). About 450 bird species have been reported from Namdapha Tiger Reserve, including several globally Threatened and restricted-range species (Katti *et al.* 1992, Athreya *et al.* 1997, Singh 1999).

The Critically Endangered White-bellied Heron *Ardea insignis* is regularly seen in Deban and Noa-Dihing river (300–450 m). Individuals were sighted for the first time in January, 1994 (Choudhury 1996a), and subsequently by Alstrom *et al.* (1994), Athreya *et al.* (1997), Maheswaran (2008). Recently, an active nest has been recorded for the first time from Namdapha, making it perhaps the first nesting record of this species in India (Mondal & Maheswaran (2014). Nesting is regularly recorded in Bhutan. The White-winged Duck *Asarcornis scutulata* has been reported from the lower reaches of Namdapha (Choudhury 1996b). It has been seen at Ranijheel, Motijheel, and Rajajheel (Choudhury 2002).

CRITICALLY ENDANGERED

Slender-billed Vulture	<i>Gyps tenuirostris</i>
White-bellied Heron	<i>Ardea insignis</i>

ENDANGERED

White-winged Duck	<i>Asarcornis scutulata</i>
-------------------	-----------------------------

VULNERABLE

Greater Spotted Eagle	<i>Clanga clanga</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon	<i>Harpactes wardi</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Blyth's Tragopan	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Streak-throated Barwing	<i>Actinodura waldeni</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
Grey Sibia	<i>Heterophasia gracilis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-warbler	<i>Tickellia hodgsoni</i>

Stattersfield *et al.* (1998) identified 21 restricted-range species from the Eastern Himalaya. Till now, 11 of these species have been seen in Namdapha.

Abidur Rahman (*pers. comm.* 2014) has reported that Namdapha NP has more than 500 species of birds. Besides the White-bellied Heron *Ardea insignis* (CR), five species of hornbills, including the globally Threatened Rufous-necked Hornbill *Aceros nipalensis* (VU), Austen's Brown Hornbill *Anorrhinus austeni* (NT), and Great Pied Hornbill *Buceros bicornis* (NT) are present. The park has good habitat for the White-cheeked Partridge (White-cheeked Hill-partridge) *Arborophila atrogularis* (NT), Snowy-throated Babbler *Stachyris oglei* (VU), Lesser Fish-eagle *Ichthyophaga humilis* (NT), Grey-headed Fish-eagle *Ichthyophaga ichthyaetus* (NT), White-tailed Eagle *Haliaeetus albicilla*, Rufous-bellied Eagle *Lophotriorchis kienerii*, Hodgson's Frogmouth *Batrachostomus hodgsoni*, Ward's Trogon *Harpactes wardi* (NT), Blyth's Kingfisher *Alcedo hercules* (NT), Beautiful Nuthatch *Sitta formosa* (VU), Cachar Wedge-billed Babbler *Sphenocichla roberti* (NT), Rusty-bellied Shortwing *Brachypteryx hyperythra* (NT), Streaked Wren-babbler *Napothera brevicaudata*, Spotted Wren-babbler (now called Spotted Elachura) *Elachura formosa*, Rufous-throated Fulvetta *Schoeniparus rufogularis*, Long-billed Plover *Charadrius placidus*, Ibisbill *Ibidorhyncha*

struthersii, Blue-naped Pitta *Hydrornis nipalensis*, Hooded Pitta *Pitta sordida*, Pied Falconet *Microhierax melanoleucos*, Spot-breasted Laughingthrush *Leucodioptron merulinus*, Rufous-vented Laughingthrush *Dryonastes gularis*, Red-headed Trogon *Harpactes erythrocephalus*, Long-tailed Broadbill *Psarisomus dalhousiae*, Silver-breasted Broadbill *Serilophus lunatus*, Great-eared Nightjar *Lyncornis macrotis*, and Asian Paradise-flycatcher *Terpsiphone paradisi*. G. Maheswaran (*pers. comm.* 2014) sighted Gold-crested Myna *Ampeliceps coronatus* in Namdapha on November 2, 2009 near Deban.

In the Eastern Himalaya, particular bird species tend to be present at lower altitudes than in the Western Himalaya. Namdapha is one of the easternmost regions of India, and the bird sightings by Athreya *et al.* (1997) confirm this trend. Over 10% of the birds recorded by them were at lower altitude or even below the lowest altitude record of the species in India.

Many northeastern birds, uncommon or rarely seen elsewhere, are fairly common in Namdapha. For example, Grey Peacock-pheasant *Polyplectron bicalcaratum*, Wreathed Hornbill *Aceros undulatus*, Blue-naped Pitta *Pitta nipalensis*, Collared Treepie *Dendrocitta frontalis*, Large Scimitar-babbler *Pomatorhinus hypoleucos*, Streaked Wren-babbler *Napothera brevicaudata*, Eyebrowed Wren-babbler

Napothera epilepidota, Rufous-vented Laughingthrush *Garrulax gularis*, White-hooded Babbler *Gampsorhynchus rufulus*, Rufous-throated Fulvetta *Alcippe rufogularis*, Rufous-backed Sibia *Heterophasia annectans*, Beautiful Sibia *Heterophasia pulchella*, Green Cochoa *Cochoa viridis*, and Black-breasted Thrush *Turdus dissimilis* are fairly widespread in the park, but not necessarily easy to locate (Kazmierczak & Singh 1998).

OTHER KEY FAUNA

Namdapha is famous for its felines: it harbours three large, two medium, and many small cats. Tiger *Panthera tigris*, Leopard *P. pardus*, and Clouded Leopard *Neofelis nebulosa* are found at lower and mid elevation, while above 3,000 m, the Snow Leopard *Panthera uncia* is reported but unconfirmed. Abid Rahman (*pers. comm.* 2014) has seen Asian Golden Cat *Catopuma temmincki* in Namdapha in 2008. There are not many IBAs in India where so many mammal species are seen. Choudhury (1995) found seven species of non-human primates: i. Slow Loris *Nycticebus bengalensis*, ii. Assamese Macaque *Macaca assamensis*, iii. Stump-tailed Macaque *M. arctoides*, iv. Pig-tailed Macaque *M. nemestrina leonina*, v. Capped Langur *Trachypitecus pileatus*, vi. Hoolock Gibbon *Hoolock hoolock*; and vii. Rhesus Macaque *M. mulatta* which is very rare.



CHITMAN MUKHERJEE

Some areas of the sprawling Namdapha National Park are so remote that it takes two or three days trekking to reach them

Among other mammals are the Asiatic Black Bear *Ursus thibetanus*, Malayan Sun Bear *Helarctos malayanus*, Red Panda *Ailurus fulgens*, Marbled Cat *Pardofelis marmorata*, Asian Golden Cat *Catopuma temminckii*, Sambar *Rusa unicolor*, Hog Deer *Axis porcinus*, Leaf Deer *Muntiacus putaoensis*, Gaur *Bos gaurus*, Red Serow *Capricornis rubidus*, Himalayan Serow *C. thar*, Chinese Goral *Naemorhedus griseus*, and Red Goral *N. baileyi* (Choudhury 2013). A Spotted Linsang *Prionodon pardicolor* was camera-trapped recently (M. Firoz Ahmed, *pers. comm.*). A new Giant Flying Squirrel *Biswamoyopterus biswasi* was described from Namdapha (Saha 1981).

Recently, Captain (2000) reported 117 species of snakes and three legless lizards within a 2½ month survey in Namdapha. Two of the snakes, *Trimeresurus medoensis* and *Amphiesma venningi* are first records from India.

LAND USE

- Forestry
- Nature conservation
- Agriculture

THREATS AND CONSERVATION ISSUES

- Poaching
- Encroachment
- Felling of trees
- *Jhum* cultivation
- Proposed Hydel project on Noa-Dihing river.
- Habitat fragmentation
- Construction of road from Miao to Vijaynagar

This large IBA is quite remote, mostly inaccessible, and uninhabited. The forest is largely untouched. The abundance of forest resources around the area fulfils the needs of the people. However, Namdapha is now coming under increasing pressure due to encroachment on its eastern side. Insurgency is another major problem for the administration. Population pressure is increasing on the western boundary also, on the northern bank of Noa-Dihing river, where Chakma tribals have settled. On the eastern fringe, the Lisu tribe, a predominantly hunter-gatherer community, has encroached some areas and periodically enters deep inside the park from settlements in Gandhigram in Arunachal Pradesh and also Myanmar, which exerts anthropogenic pressure.

KEY CONTRIBUTORS

Ramana M. Athreya, Kulojyoti Lahkar, Anwaruddin Choudhury, Ashok S. Captain, Manju Menon, Abidur Rahman, Shashank Dalvi.

KEY REFERENCES

- Alstrom, P., Jirle, E., Jaderblad, M., Kjellen, N., Larsson, G., Paulsarud, A., Saellstrom, P., and Alind, P. (1994) Birds and mammals observed in Namdapha National Park, Arunachal Pradesh, 6 to 14 February. Unpubl.
- Athreya, R.M., Captain, A.S., and Athreya, V.R. (1997) A faunal survey of Namdapha Tiger Reserve, Arunachal Pradesh, India. (A Report).
- Captain, A. (2000) No snakes in Arunachal! *Sanctuary Asia* 20(2): 38–44.
- Chatterjee, A.K. and Chandiramani, S.S. (1986) An introduction to Namdapha Tiger Reserve, Arunachal Pradesh, India. *Tigerpaper* 13(3): 22–27.
- Choudhury, A.U. (1995) The primates of Namdapha National Park. *IPPL News* 22(2): 23–24.
- Choudhury, A.U. (1996a) Winter waterfowl count in Namdapha National Park. *OBC Bulletin* 23: 29–30.
- Choudhury, A.U. (1996b) Survey of White-winged Wood Duck and Bengal Florican in Tinsukia district and adjacent area of Assam and Arunachal Pradesh. The Rhino Foundation for nature in NE India, Guwahati. Pp. 82.
- Choudhury, A.U. (2002) Major Inland Wetlands of Northeastern India (excluding Assam). Report submitted to SACON, Coimbatore. Pp. 45. Unpubl.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for nature in NE India (supported by COA, Taiwan), Guwahati, India. Pp. 432.
- Ghosh, A.K. (1987) *Qualitative analysis of faunal resources. Proposed Namdapha Biosphere Reserve, Arunachal Pradesh*. Zoological Survey of India, Calcutta. Pp. 129.
- Katti, M., Singh, P., Manjrekar, N., Sharma, D., and Mukherjee, S. (1992) An ornithological survey in Eastern Arunachal Pradesh, India. *Forktail* 7: 75–89.
- Kazmierczak, K. and Singh, R. (1998) Northeast India. Pp. 140–167. In: Kazmierczak, K. and Singh, R. (Eds) *A Birdwatchers Guide to India*. Prion Ltd, Sandy.
- Maheswaran, G. (2008) Waterbirds of Namdapha Tiger Reserve, Arunachal Pradesh with special reference to White-bellied Heron *Ardea insignis*. *Rec. Zool. Surv. India*. 108(3): 109–118.
- Mondal, H.S. and Maheswaran, G. (2014) First nesting record of White-bellied Heron *Ardea insignis* in Namdapha Tiger Reserve, Arunachal Pradesh, India. *BirdingASIA* 21: 13–17
- Saha, S.S. (1981) A new genus and a new species of flying squirrel from northern India. *Bulletin zool. Surv. India* 4: 331–336.
- Singh, P. (1999) Bird survey of selected localities in Arunachal Pradesh, India. *Oriental Bird Club Bulletin* 30: 11–12.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, UK. Pp. 846.

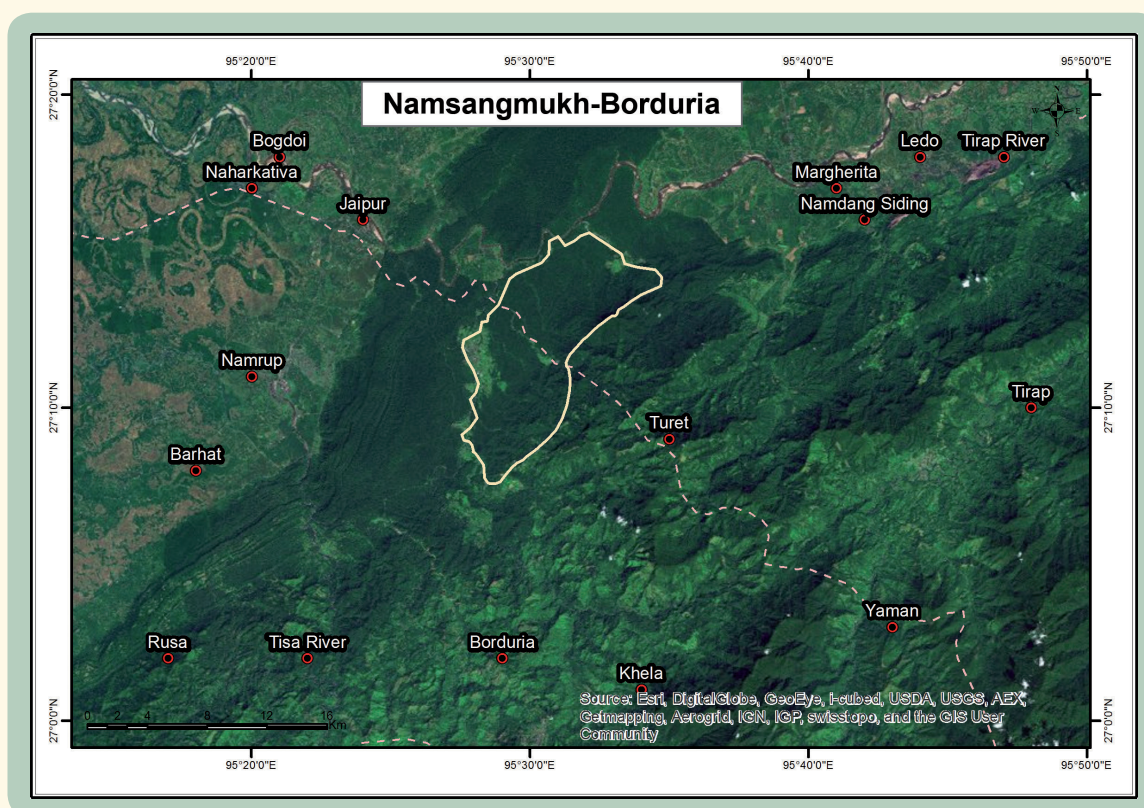
NAMSANGMUKH-BORDURIA

IN-AR-19

IBA Site Code	: IN-AR-19	Area	: c. 20,000 ha
Administrative Region (State)	: Arunachal Pradesh	Altitude	: 120–400 msl
District	: Tirap	Rainfall	: Not available
Coordinates	: 27° 13' 00" N, 95° 30' 00" E	Temperature	: Not available
Ownership	: Community, Government	Biogeographic Zone	: Himalaya
		Habitats	: Tropical Wet Evergreen Forest

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Not officially protected.



GENERAL DESCRIPTION

This large Tropical Wet Evergreen or Rain Forest area is relatively poorly explored by scientists. It lies adjacent to Assam's Dihing-Patkai Wildlife Sanctuary. The forest is dominated by tall dipterocarps, especially *Hollong Dipterocarpus macrocarpus*, which grows up to 50 m tall. The area is hilly, being part of the Patkai range, and is known for the Endangered White-winged Duck *Asarcornis scutulata*. Namsang and Borduria, which are part of this IBA, are reserve forests categorized as VRF (Village Reserve Forests, unique to Arunachal Pradesh), and cover 148 sq. km. This IBA also holds some community forests.

AVIFAUNA

Not much is known about the birdlife, except for the presence of White-winged Duck (Choudhury 1996, 2002), a globally Threatened species (BirdLife International 2001). According to Choudhury (*pers. comm.* 2003), a sizeable population of this Endangered species occurs in the IBA. In 1993, two ducks were seen in a *nullah* (stream), c. 0.5 km off the main road near Namsangmukh village, and later three birds in flight were spotted in the same environs. The White-cheeked Hill-partridge *Arborophila atrogularis*, Kaleej Pheasant *Lophura leucomelanos*, Grey Peacock-pheasant *Polyplectron bicalcaratum*, and Austen's Brown Hornbill *Anorrhinus tickelli* are also frequently met with. The area is

also known for Austen's Babbler or Snowy-throated Babbler *Stachyris oglei*. The area mentioned by Ali & Ripley (1987) as 'Patkai Range near Margherita' actually refers to this IBA, as this area was then administered from Margherita (Anwaruddin Choudhury, *pers. comm.* 2014).

The White-bellied Heron *Ardea insignis*, Pale-capped Pigeon *Columba punicea*, Rufous-necked Hornbill *Aceros nipalensis*, and Beautiful Nuthatch *Sitta formosa*, all globally Threatened, were seen in the neighbouring Dirak Reserve Forest, Joypur Reserve Forest, and Upper Dihing (West Block) Reserve Forest (now partly in Dihing-Patkai WLS) by Mridupaban Phukan (*pers. comm.* to Kulojyoti Lahkar).

A checklist of the birds of this IBA is not available, but judging from the extant habitat, there could be 250 to 300 species, including many restricted-range and biome-restricted species. The area comes under Eastern Himalaya Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998) and Biome 9 (Indo-Chinese Tropical Moist Forest) (BirdLife International, undated).

ENDANGERED

White-bellied Heron	<i>Ardea insignis</i>
White-winged Duck	<i>Asarcornis scutulata</i>

VULNERABLE

Pale-capped Pigeon	<i>Columba punicea</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
White-cheeked Hill-partridge	<i>Arborophila atrogularis</i>
River Lapwing	<i>Vanellus duvaucelii</i>
Austen's Brown Hornbill	<i>Anorrhinus tickelli</i>
Great Pied Hornbill	<i>Buceros bicornis</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Yellow-vented Warbler	<i>Phylloscopus cantator</i>
-----------------------	------------------------------

OTHER KEY FAUNA

This IBA has a rich assemblage of mammals. It harbours three big cats, Tiger *Panthera tigris*, Leopard *P. pardus*, and Clouded Leopard *Neofelis nebulosa*, and five smaller cats, the Marbled Cat *Pardofelis marmorata*, Asian Golden Cat *Catopuma temminckii* (one was poached and its meat sold in 2003), Jungle Cat *Felis chaus*, Leopard Cat *Prionailurus bengalensis*, and Fishing Cat *P. viverrinus*. There are seven species of non-human primates, Slow Loris *Nycticebus bengalensis*, Assamese Macaque *Macaca assamensis*, Stump-tailed Macaque *M. arctoides*, Pig-tailed macaque *M. nemestrina leonina*, Rhesus Macaque *M. mulatta*, Capped

Langur *Trachypithecus pileatus*, and Hoolock Gibbon *Hoolock hoolock*. Among other mammals, there are the Wild Dog *Cuon alpinus*, Asiatic Black Bear *Ursus thibetanus*, Malayan Sun Bear *Helarctos malayanus*, Sambar Rusa *unicolor*, Gaur *Bos gaurus*, Red Serow *Capricornis rubidus*, and Red Giant Flying Squirrel *Petaurista petaurista* ssp. *candidula* (Choudhury 2013).

LAND USE

- Forestry
- Agriculture
- Boulder collection

THREATS AND CONSERVATION ISSUES

- Poaching
- Encroachment
- Felling of trees
- *Jhum* cultivation

Encroachment and logging were the main conservation problems, but after the ban on commercial logging by the Supreme Court, this problem is reduced to some extent.

A detailed inventory of the biodiversity of this extremely important area is urgently required, particularly in view of its value as a habitat of White-winged Duck and some primates.

KEY CONTRIBUTOR

Anwaruddin Choudhury.

KEY REFERENCES

- Ali, and S. Ripley, S.D. (1987) *Compact Edition of the Handbook of the Birds of India and Pakistan*. Oxford University Press, New Delhi.
- BirdLife International (undated) *Important Bird Areas (IBAs) in Asia: Project Briefing Book*. BirdLife International, Cambridge, UK. Unpubl.
- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Choudhury, A.U. (1996) Survey of the White-winged Wood Duck and the Bengal Florican in Tinsukia district and adjacent areas. The Rhino Foundation for nature in NE India, Guwahati. Pp. 82.
- Choudhury, A.U. (2002) Conservation of the Whitewinged Wood Duck *Cairina scutulata* in India. Pp. 52–64. In: Rahmani, A.R. and Ugra, Gayatri (Eds) *Birds of Wetlands and Grasslands: Proceedings of the Salim Ali Centenary Seminar on the Conservation of Avifauna of Wetlands and Grasslands, 1996*. Bombay Natural History Society, Mumbai.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998). *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

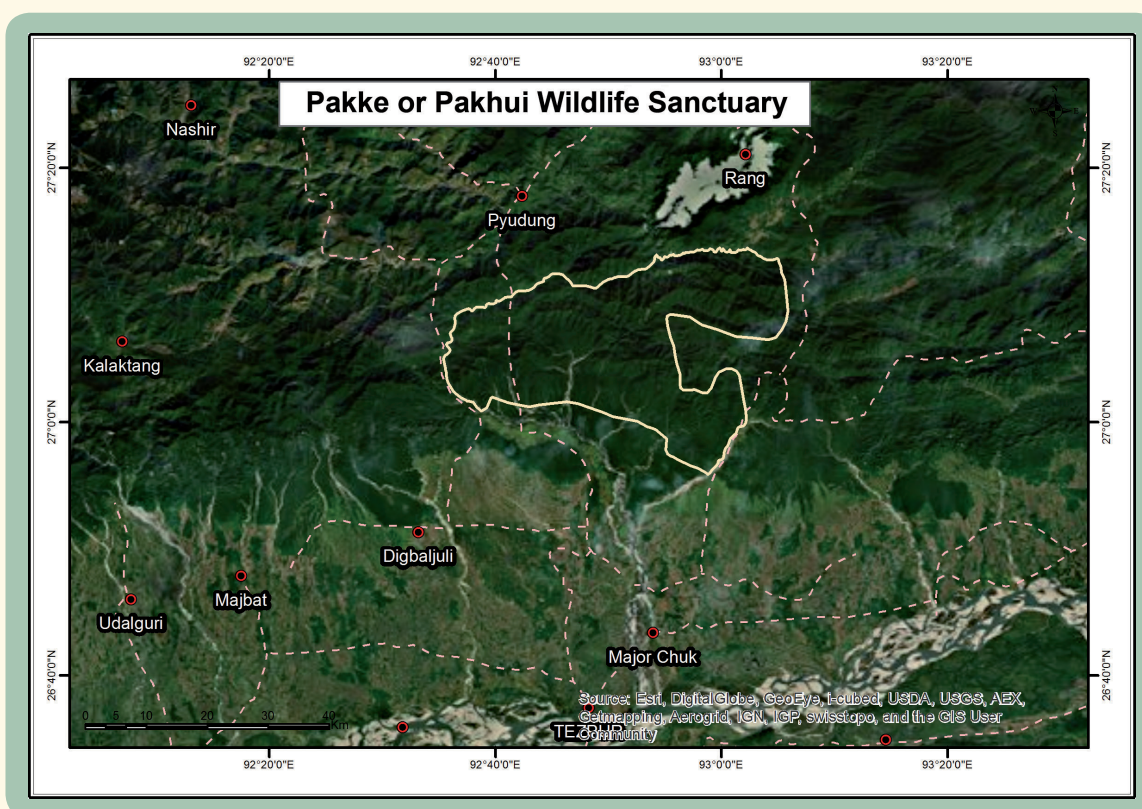
PAKKE OR PAKHUI WILDLIFE SANCTUARY

IN-AR-20

IBA Site Code	: IN-AR-20	Altitude	: 100–2,000 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >2,500 mm
District	: East Kameng	Temperature	: 2 °C to 35 °C
Coordinates	: 27° 19' 07" N, 92° 51' 37" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Tropical Wet Evergreen, Tropical Semi-evergreen, Sub-tropical Broadleaf Hill Forest
Area	: 86,195 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya; Endemic Bird Area 131: Assam Plains)

PROTECTION STATUS: Wildlife Sanctuary, established March, 1977. Declared Tiger Reserve in 2002.



GENERAL DESCRIPTION

Pakke Wildlife Sanctuary, formerly known as Pakhui, is bounded to the north and west by the River Jia-Bhoreli (known as Kameng in Arunachal Pradesh), to the east by the River Pakke and to the south by Nameri National Park (an IBA) of Assam. Doimara Reserve Forest (RF) lies to the west of Pakke in West Kameng district, while Papum RF lies to the east of the sanctuary in East Kameng district. Both these reserve forests cover c. 128,900 ha (Datta 1998a). Pakke has also been declared as a Tiger Reserve under Project Tiger in 2002.

Pakke is criss-crossed by a number of small rivers and

perennial tributaries of Jia-Bhoreli and its tributary the Pakke river. Jia-Bhoreli joins the Brahmaputra river. The area lies in the foothills of the Himalaya and the terrain is undulating and hilly.

A large portion of the northern and central part of the sanctuary is inaccessible due to dense vegetation, hilly terrain, and lack of trails or paths.

The forest types include Tropical Semi-evergreen on the lower plains and foothills, patches of Tropical Evergreen and Sub-tropical Broadleaf Forests on the hilltops and higher reaches. Moist areas near streams have a profuse growth of bamboo, cane brakes, and palms. Patches of tall grassland

and shingle beds occur along the larger perennial streams, which give way to lowland moist forests (Datta 1998a).

AVIFAUNA

Singh (1991, 1994), Datta *et al.* (1998), and Pawar & Birand (2001) have together recorded 296 bird species from the area. At least 45–50 species of major frugivorous and granivorous birds occur here. These include eight species of bulbuls (*Pycnonotus*), five species of mynas (*Acridotheres*), four species of green-pigeons (*Treron*) and Mountain Imperial-pigeon *Ducula badia*, four species of doves (*Streptopelia*, *Macropygia*, and *Chalcophaps*), four barbet species (*Megalaima*), and three parakeet species (*Psittacula* and *Loriculus*). In addition, broadbills, cuckoos, Red-headed Trogon (*Harpactes erythrocephalus*), two leafbird species (*Chloropsis*), Fairy Bluebird (*Irena puella*), two oriole (*Oriolus*) species and four flowerpecker species (*Dicaeum*) were also recorded.

There are at least four globally Threatened species, namely Rufous-necked Hornbill *Aceros nipalensis*, White-winged Duck *Asarcornis scutulata*, Pallas's Fish-eagle *Haliaeetus leucoryphus*, and Lesser Adjutant *Leptoptilos javanicus*. The uncommon Oriental Bay-owl *Phodilus badius* has also been recorded in the area recently (Datta *et al.* 2001; A. Datta, *pers. comm.* 2003).

Several roost sites of hornbills, where up to 150 Wreathed Hornbill *Aceros undulatus* and about 100 Great Pied Hornbill *Buceros bicornis* roosted at the same location, were recorded in recent studies (Datta *et al.* 1998). Among the three species of hornbills, the Great Pied Hornbill is the

ENDANGERED

White-winged Duck	<i>Asarcornis scutulata</i>
-------------------	-----------------------------

VULNERABLE

Lesser Adjutant	<i>Leptoptilos javanicus</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
Black-headed Ibis	<i>Threskiornis melanocephalus</i>
White-cheeked Partridge	<i>Arborophila atrogularis</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
River Lapwing	<i>Vanellus duvaucelii</i>
Great Thick-knee	<i>Esacus recurvirostris</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Warbler	<i>Tickellia hodgsoni</i>

most abundant, followed by the Wreathed and Oriental Pied (Datta 1998a). Great Pied and Wreathed Hornbills were recorded in all habitats, while Oriental Pied was recorded only in semi-disturbed forests and plantations.

Datta (2000) has studied the relative abundance of pheasant species *Gallus gallus*, *Lophura leucomelanos lathami*, and *Polyplectron bicalcaratum* in unlogged and logged forests of Pakke WLS. She found that overall pheasant abundance was highest in unlogged forest and low



Species like Streaked-breasted Scimitar-babbler *Pomatorhinus ruficollis* which is resident in Himalaya from Uttarakhand to Arunachal and south Assam, makes Pakke a birdwatcher's paradise

in other strata. No pheasant was sighted in the plantation, further proving the importance of maintaining undisturbed forest tracts for biodiversity conservation.

Pakke has rich assemblages of biome species. Thirteen species of woodpeckers, eight species of bulbuls, nine species of doves and pigeons, and several other groups of birds are common (Datta *et al.* 1998). Family Muscicapidae, for which the Northeast is famous, is represented by 72 species!

This IBA is particularly good for raptors. Of the 66 species reported from the Indian subcontinent, Pakke has 17, including rarities such as the Pallas's Fish-eagle *Haliaeetus leucoryphus*.

Due to its altitudinal variation from 100 m to 2,000 m, Pakhui has bird species ranging from Ibisbill *Ibidorhyncha struthersii* and Tickell's Warbler *Phylloscopus affinis* of Biome 5 (Eurasian High Montane Forest) to Grey Peacock-pheasant *Polyplectron bicalcaratum*, Pale-headed Woodpecker *Gecinulus grantia*, and Black-backed Forktail *Enicurus maculatus* of Biome 7 (Indo-Chinese Tropical Moist Forest). Ibisbill has been sighted on Khari nullah (stream) and Bhareli river (Datta *et al.* 1998).

Rarely seen, but supposedly widespread, the Green Cochoa *Cochoa viridis* is found in Pakhui. Elwes's or Black-tailed Crane *Porzana bicolor* was seen in a forest pool called Pukhri, situated on top of a plateau (Shashank Dalvi, *pers. comm.* 2014).

This IBA is included in the Eastern Himalaya Endemic Bird Area EBA 130 (Stattersfield *et al.* 1998). Of the 21 restricted-range species recorded for India in this EBA, seven have been seen to date.

Choudhury (1995) reported White-winged Duck *Asarcornis scutulata* from this IBA, but it is present in much greater numbers in the adjoining Nameri National Park in Assam (Choudhury 2002).

OTHER KEY FAUNA

This IBA is extremely rich in mammals, reptiles, amphibians, and insects. Besides a good number of Asiatic Elephant *Elephas maximus*, Tiger *Panthera tigris* and Leopard *P. pardus*, there is also evidence of the presence of Clouded Leopard *Neofelis nebulosa* in the area (Datta 1998b). The Golden Cat *Catopuma temmincki* and Leopard Cat *Prionailurus bengalensis* are also reported from this IBA. Datta (1999) has recorded about 10 species of smaller carnivores from Pakke.

Pakke WLS appears to support a highly diverse turtle population (Datta 1998c). The Assam Roofed Turtle *Kachuga sylhetensis*, restricted to the evergreen forest tracts of northeast India, was found in Khari nullah by Datta (1998c), the first record of this rare species from Arunachal Pradesh. The Keeled Box Turtle *Pyxidea mouhotii* was also recorded for the first time in 1995 (Choudhury 1996).

This site has very diverse species of amphibians (28



KALYAN VARMA

Pakke is known for its population of Hornbills particularly Great Pied Hornbill *Buceros bicornis*

species) and reptiles (48 species) (Pawar & Birand 2001). Some of the interesting species are North-western Trickle Frog *Occidozyga borealis* and Daniel's Oriental Stream Frog *Rana danieli*.

LAND USE

- Tourism
- Conservation and research

THREATS AND CONSERVATION ISSUES

- Poaching
- Illegal tree felling
- Developmental project

East Kameng is among the most thinly populated districts of Arunachal Pradesh. About 13 to 15 villages and small settlements are located near the southeastern boundary



DIWAKAR THOMBRE

Common Imperial *Cheritra freja*

of the sanctuary, adjacent to Pakke river, with an adult population of c. 4,000 (mostly belonging to the Nishi tribal community, 1997–1998 census). The tribals are mostly involved in settled agriculture. The villagers engage in fishing, hunting, cane and bamboo pole cutting, collection of honey and resin (*dhuna*) from the forest. Selective logging on a commercial scale occurred in the reserve forests till 1996. Prior to the Supreme Court ban on logging, timber felling was the main source of income for some people in the village. Two mills operated here. There was some illegal felling within the sanctuary earlier, especially near the southeastern boundary. Sustainable activities and innovative schemes that provide livelihood for local people such as poultry, handicraft development, bee-keeping, orchid cultivation, plantations of cane, bamboo, and Toko Palm *Livistona jenkinsiana* (Assamese=*Tokou*) are important for local needs. In fact, in the reserve forest, cane and Toko Palm are disappearing due to frequent cutting. To reduce the dependency of the tribals on the forest, growing and planting of cane, bamboo, and Toko Palm around their villages or even in degraded land in the reserve forests should be encouraged.

Villagers from Assam often enter the forests to collect cane that is sold in local markets for making furniture and decorative cane products in nearby Tezpur. Fishing in the rivers and streams is a major source of disturbance,

especially by villagers from Assam who camp for several days and often poison an entire stretch of river. Dynamiting is also carried out sometimes. The biggest threat in recent years has been the increasing encroachment and almost total clearfelling of adjoining reserve forests in Assam near the state boundary adjoining Pakke TR by Bodo settlers. The Bodos have cleared forests for new settlements and settled agriculture in prime foothill forest areas. More than 100 sq. km of forest has disappeared since 1995 in Diplonga, Naduar RF, and Balipara RF. These settlers also enter Nameri NP to cut firewood and timber, and encroach into the edges of Papum RF on the Arunachal side.

Hunting by the local tribal community, the Nishis, is mainly for subsistence and local consumption, although sometimes animals are hunted to supplement their income. Large-scale hunting for commercial purposes is not such a big threat, although incidental hunting of otters, bears, and other lucrative wildlife species occurs. The local community mostly views the Forest Department and the presence of the sanctuary with resentment, as they feel dispossessed and excluded from what they have seen as their land. There are few employment opportunities and the few that exist with government departments are minimal and considered unattractive due to poor wages. The settled agriculturists also face problems from crop-raiding elephants. However, in recent years (January 2000–March 2002), the local Nishi

community has become more responsive to conservation activities, thanks to the efforts of the Forest Department and conservation organizations. Many of them, who were active hunters, are now involved in the conservation of hornbills. Earlier there was a taboo on hunting hornbills only in the breeding season, but now a total ban on hornbill hunting is observed. The tribals have formed four village councils to ensure reduction in hunting activities in general. The council members apprehend and fine people who go hunting, fishing, or collecting forest produce. However, hunting still remains a threat, because of the traditional value and increasing rarity of these birds in other areas of Arunachal. The interest and conservation commitment shown by the Nishis needs to be sustained through more incentives, income-generation opportunities tied to wildlife conservation in the area such as employment as nature guides, ecotourism, and in conservation education programmes. This would increase awareness among villagers about wildlife conservation and generate pride and enthusiasm among them.

Compared to other IBAs, Pakke is relatively undisturbed due to its inaccessibility, difficult terrain, and lack of roads. The sole village, Mabusa, to the south of the sanctuary has been relocated (Datta *et al.* 1998). A few settlements are present near the northern boundary. The Kameng river acts as a barrier to human pressure, though occasionally the tribals cross over for hunting.

Datta (1998a) has shown that many species of hornbills can survive in semi-disturbed forests and plantations. Hornbills are adapted to exploit food resources that are rare and widely dispersed, and hence most species range over large areas of forest (John 1983). Logged forests cover larger areas than primary forests, and therefore should be included in conservation strategies (John 1987).

Cane extraction on a commercial basis occurred in Pakhui till 1991, but now it has been stopped. Minor forest products are still extracted by some tribals from the fringes, but they are not of much concern as the extraction is still at a low, sustainable level.

A small part of the forest near the southern boundary had also undergone some felling in the past, before the area was declared a sanctuary in 1978 (Datta *et al.* 1998).

Construction of a power house as part of the Kameng (dams on Tenga and Bichim rivers) hydro-electrical project on the boundary of the sanctuary will disturb its tranquility and anthropogenic pressure from the labour during the construction period will affect the habitats and wildlife of the sanctuary near the construction site (Choudhury & Menon 2003).

This large sanctuary is grossly understaffed. The Forest Department lacks funds and infrastructure and logistics are inadequate, and therefore, the motivation among the

staff is low. Frontline staff needs training and exposure to census methodologies.

KEY CONTRIBUTORS

Aparajita Datta, A. Birand, S. Pawar, Shashank Dalvi.

KEY REFERENCES

- Choudhury, A.U. (1995) White-winged Wood Duck in Mehao and Pakhui Sanctuaries, Arunachal Pradesh. *IWRB TWRG Newsletter* 7: 12.
- Choudhury, A.U. (1996) The Keeled Box Turtle *Pyxidea mouhotii* Gray on the north bank of the Brahmaputra – A new record. *JBNHS* 93(1): 97.
- Choudhury, A.U. (2002) Conservation of the White-winged Wood Duck *Cairina scutulata* in India. Pp. 52–64. In: Rahmani, A.R. and Ugra, Gayatri (Eds) *Birds of Wetlands and Grasslands: Proceedings of the Salim Ali Centenary Seminar on Conservation of Avifauna of Wetlands and Grasslands*. Bombay Natural History Society, Mumbai. Pp. x + 228.
- Choudhury, A.U. and Menon, M. (2003): Kameng underestimated. *Ecologist Asia* 119(1): 71–75.
- Datta, A. (1998a) Hornbill abundance in unlogged forest, selectively logged forest and a forest plantation in Arunachal Pradesh, India. *Oryx* 32(4): 285–294.
- Datta, A. (1998b) Evidence of Clouded Leopard *Neofelis nebulosa* in Pakhui Wildlife Sanctuary, Arunachal Pradesh. *JBNHS* 95(3): 498–499.
- Datta, A. (1998c) Records of turtles from Pakhui Wildlife Sanctuary, Arunachal Pradesh, Northeast India. *JBNHS* 95: 121–123.
- Datta, A. (1999) Small carnivores in two protected areas of Arunachal Pradesh. *JBNHS* 96(3): 399–404.
- Datta, A. (2000) Pheasant abundance in selectively logged and unlogged forests of western Arunachal Pradesh, Northeast India. *JBNHS* 97 (2): 177–183.
- Datta, A., Singh, P., Athreya, R.M. and Karthikeyan, S. (1998). Birds of Pakhui Wildlife Sanctuary in Western Arunachal Pradesh, North East India. *Newsletter for Birdwatchers* 38(6): 91–96.
- Datta, A., Rawat, G.S., and Singh, P. (2001) An ecological study of sympatric hornbills and fruiting patterns in a tropical forest in Arunachal Pradesh: Final Report. Wildlife Institute of India, Dehradun. Pp. 253.
- John, A.D. (1983) Wildlife can live with logging. *New Scientist* 99: 206–211.
- John, A.D. (1987) The use of primary and selectively logged rainforest by Malaysian hornbills (Bucerotidae) and implications for their conservation. *Biological Conservation* 40: 179–190.
- Pawar, S. and Birand, A. (2001) A survey of amphibians, reptiles and birds in Northeast India. CERC Technical Report 6. Centre for Ecological Research and Conservation, Mysore. Pp. 118.
- Singh, P. (1991) Avian and mammalian evidences in Pakhui Wildlife Sanctuary in East Kameng district, Arunachal Pradesh. *Arunachal Forest News* 9(2): 1–10.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

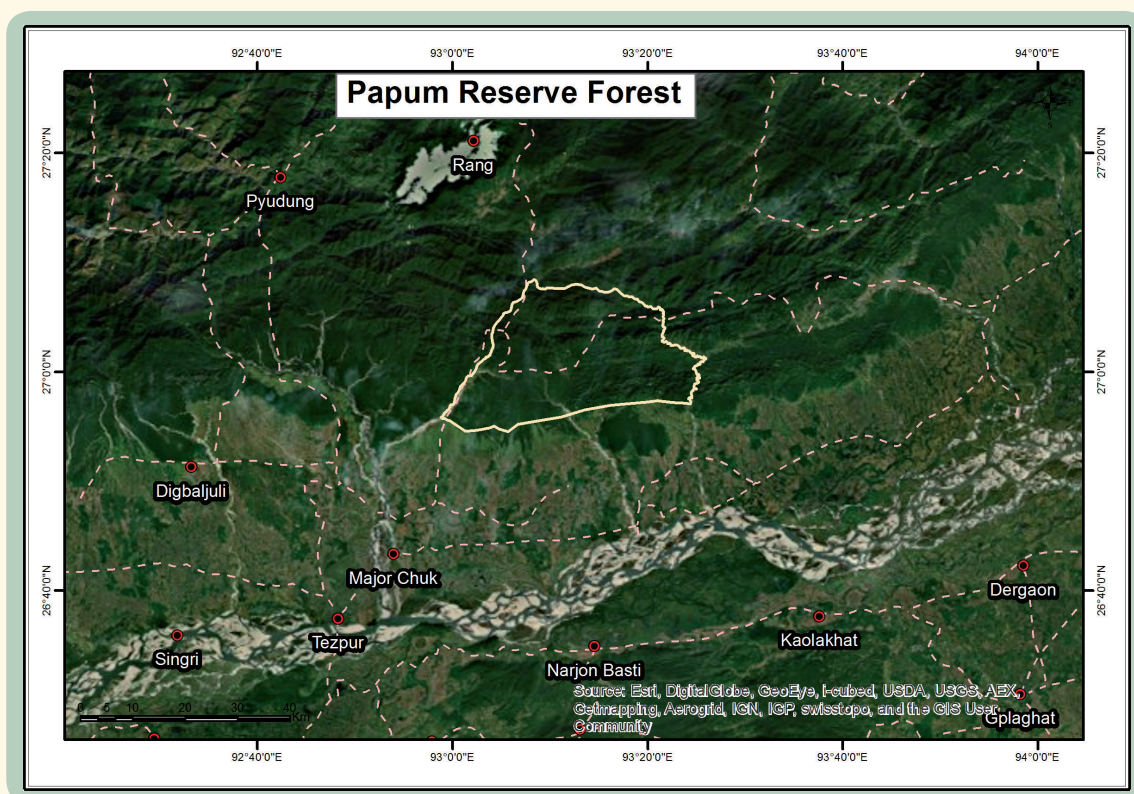
PAPUM RESERVE FOREST

IN-AR-21

IBA Site Code	: IN-AR-21	Area	: 106,300 ha
Administrative Region (State)	: Arunachal Pradesh	Altitude	: 100–1,600 msl
District	: East Kameng	Rainfall	: 2,000–4,000 mm
Coordinates	: 27° 00' 00" N, 93° 10' 00" E	Temperature	: 6 °C to 32 °C
Ownership	: State	Biogeographic Zone	: Himalaya
		Habitats	: Sub-tropical Dry Evergreen Forest, Sub-tropical Broadleaf Hill Forest

IBA CRITERIA : A1 (Threatened species)

PROTECTION STATUS: Reserve Forest.



GENERAL DESCRIPTION

This large IBA in western Arunachal Pradesh is located between two IBAs, Itanagar Wildlife Sanctuary to the east and Pakke Wildlife Sanctuary to the west. The site covers foothills as well as some higher hills in the Himalaya. A large number of perennial streams irrigate this IBA, and ultimately drain into the Brahmaputra river. Papum Reserve Forest forms part of the Eastern Himalaya Endemic Bird Area EBA 130 (Stattersfield *et al.* 1998).

A large part of the site is covered with Sub-tropical Evergreen and Semi-evergreen Forests, while the higher areas have Sub-tropical Broadleaf Hill Forest cover. There are small grassy patches and profuse growth of bamboo

and cane brakes, and palms along the rivers (Anwaruddin Choudhury, *pers. comm.* 2003).

AVIFAUNA

This large reserve forest, with fauna and flora similar to Pakke Wildlife Sanctuary, was overlooked in many of the earlier surveys (Singh 1999). The White-winged Duck *Asarcornis scutulata* and Rufous-necked Hornbill *Aceros nipalensis* have been recorded in the area. Three more species of hornbill are still fairly common: the Near Threatened Great Pied *Buceros bicornis*, Wreathed *Aceros undulatus*, and Oriental Pied *Anthracoceros albirostris*. A detailed avifaunal survey is long overdue, as such a



Fluffy Tit *Zeltus etolus*

DIWAKAR THOMRE

large wilderness with tropical forest, although disturbed at places, is rare. The Near Threatened River Lapwing *Vanellus duvaucelii* is regularly seen along the streams. Among galliforms, Rufous-throated Partridge *Arborophila rufogularis*, Red Junglefowl *Gallus gallus*, Kaleej Pheasant *Lophura leucomelanos*, and Grey Peacock-pheasant *Polyplectron bicalcaratum* are common (Anwaruddin Choudhury, pers. comm. 2003, 2014).

ENDANGERED

White-winged Duck *Asarcornis scutulata*

VULNERABLE

Rufous-necked Hornbill *Aceros nipalensis*

NEAR THREATENED

Oriental Darter *Anhinga melanogaster*

River Lapwing *Vanellus duvaucelii*

Great Pied Hornbill *Buceros bicornis*

OTHER KEY FAUNA

These include Tiger *Panthera tigris*, Asiatic Elephant *Elephas maximus*, Gaur *Bos gaurus*, a small population of the rare Wild Water Buffalo *Bubalus arnee* (= *bubalis*) (probably extirpated now), and a record of the Asian Golden Cat *Catopuma temminckii* (Choudhury 2003). Other notable mammals are Slow Loris *Nycticebus bengalensis*, Assamese Macaque *Macaca assamensis*, Rhesus Macaque *M. mulatta*, Capped Langur *Trachypithecus pileatus*, Dhole *Cuon alpinus*, Asiatic Black Bear *Ursus thibetanus*, Leopard Cat *Prionailurus bengalensis*, Jungle Cat *Felis chaus*, Leopard *Panthera pardus*, Clouded Leopard *Neofelis nebulosa*, Sambar *Rusa unicolor*, Barking Deer *Muntiacus muntjak*, Himalayan Serow *Capricornis thar*, Himalayan Goral *Naemorhedus goral*, and Malayan Giant Squirrel *Ratufa*

bicolor (Choudhury 2013).

LAND USE

- Forestry
- Agriculture

THREATS AND CONSERVATION ISSUES

- Encroachment
- Felling of trees
- Poaching
- Grazing

The major issue is encroachment and felling of trees. People are coming down from higher areas to settle along the flat lands near the Assam border. A camp of the India Reserve Battalion has been set up by clearing a large area of forest. The township of Seijosa is also growing and there is likelihood of more encroachment. Poaching and cattle grazing are other problems.

KEY CONTRIBUTOR

Anwaruddin Choudhury

KEY REFERENCES

- Choudhury, A.U. (2003) *The Mammals of Arunachal Pradesh*. Regency Publications, New Delhi.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- Singh, P. (1999) Bird survey in selected localities of Arunachal Pradesh, India. Wildlife Institute of India, Dehradun. Pp. 92.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

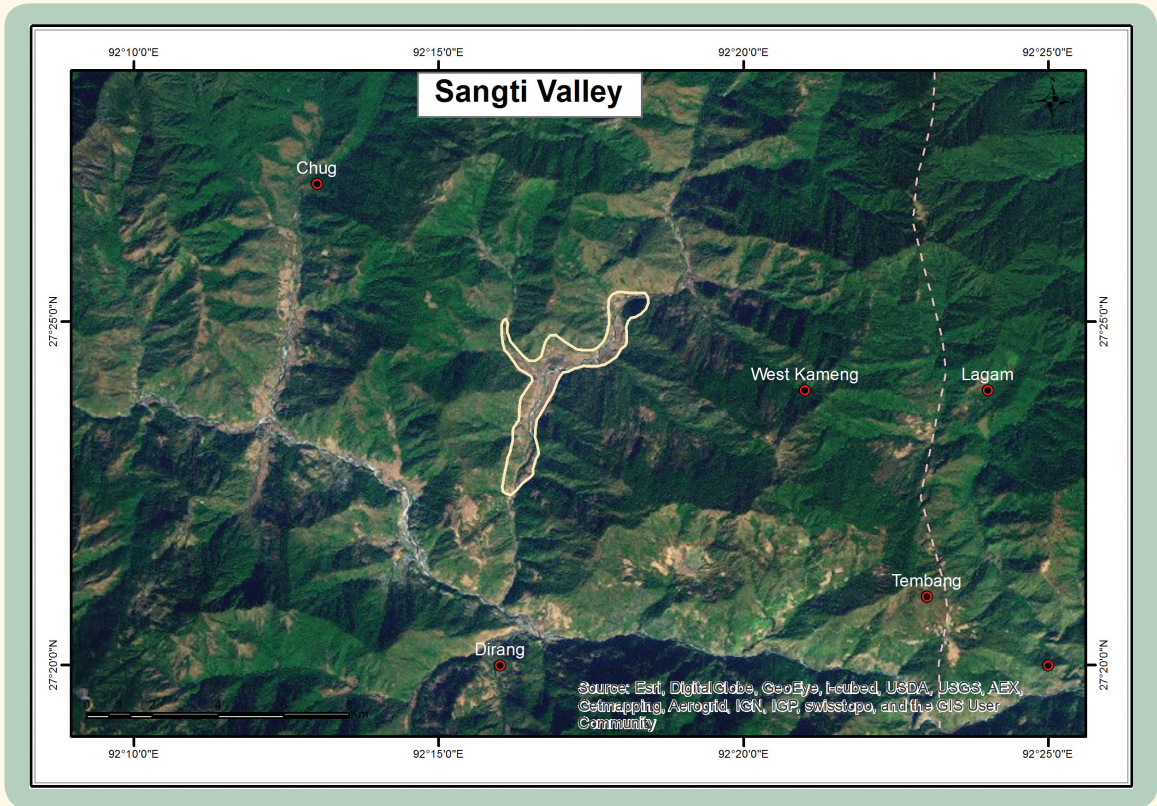
SANGTI VALLEY

IN-AR-22

IBA Site Code	: IN-AR-22	Altitude	: 1,500 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: 2,000 mm
District	: West Kameng	Temperature	: 0 °C to 26 °C
Coordinates	: 27° 26' 46" N, 92° 04' 60" E	Biogeographic Zone	: Himalaya
Ownership	: State, Community, Private	Habitats	: Cultivated fields, degraded Sub-tropical Broadleaf and Coniferous Forests
Area	: 300 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

Sangti Valley is a small and relatively remote but accessible area in western Arunachal Pradesh.

Sangti Valley is neither protected nor does it come under reserve forests, hence it does not have a well-defined boundary. This mountainous area is part of the Eastern Himalaya. Sangti Valley is situated at c. 1,500 msl.

Sangti Valley is surrounded by denuded slopes of the Great Himalaya, with sparse Temperate and Broadleaf Forest. The western side of the valley has villages, and most parts are under paddy cultivation in summer. In the winter, the harvested paddyfields attract many birds. There is a small, half-hectare patch of marsh, where the Black-necked

Crane *Grus nigricollis* is seen.

The climate is typically montane, the main features being sharp contrast between sun and shade temperatures, wide diurnal temperature range, inversion of temperature, and variability of rainfall depending upon exposure and elevation. Summer is warm and wet, while the winter is cold and dry, with occasional rain. Annual rainfall varies from <1,500 mm (northern slopes, partly in rain shadow zone) to >2,000 mm (southern slopes). The south-facing slopes receive heavy rainfall. The temperature generally ranges from 0 °C in winter (minimum) to 30 °C in summer (maximum). Heavy snowfall is experienced in winter in the surrounding mountains.

VULNERABLE

Black-necked Crane	<i>Grus nigricollis</i>
Blyth's Tragopan	<i>Tragopan blythii</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Beautiful Sibia	<i>Heterophasia pulchella</i>
-----------------	-------------------------------

AVIFAUNA

A bird survey of this little known wilderness was carried out in April-end, May, and October, 2000 as part of the BNHS IBA project. Prior to that, these areas were also visited from 1997 to 1999. Some information on the birds of this region is found in Choudhury (2000), Gole (1996), Singh (1994), and some unpublished reports. These studies helped in assessing the bird diversity of this area.

A combined total of c. 300 bird species has been recorded so far in this and the nearby IBAs (Mandla-Phudung and Kalaktang) (Choudhury 2001).

Choudhury (2001), who surveyed Sangti Valley, Mandla-Phudung, Dirang, Shergaon, and Chander, has reported six species of pheasants, including the globally Threatened Blyth's Tragopan *Tragopan blythii*. Temminck's Tragopan *Tragopan temminckii*, which was recorded in northern Arunachal Pradesh at 2,100 to 3,600 m (Ali & Ripley 1987, Grimmett *et al.* 1998), has been found above Sangti Valley, at 3,000 m. At 27° 18' N, 92° 06' E, this could be the westernmost record in India (Choudhury 2001).

Sangti Valley was the only known regular wintering site of the Black-necked Crane *Grus nigricollis* in northeastern

India till the discovery of a site at Zemithang, Tawang district, also in Arunachal Pradesh (Choudhury 2000). In December 1999, Choudhury photographed three birds. A maximum of six birds has been reported from this site. The local Monpas call it *Thung-thung Karmo* (Choudhury 2001). Although the birds have become irregular now and have not come during the past few years, a small group arrived in December 2014 (Anwaruddin Choudhury, *pers. comm.* 2014).

This IBA comes under the Eastern Himalaya Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998). Of the 21 restricted-range species identified for this EBA, 11 have been reported from this site.

Beautiful Sibia *Heterophasia pulchella*, was seen by Choudhury (2001) on many occasions in good quality broadleaf forest near Chander, northeast of Sangti Valley.

India's only record of the breeding of Long-billed Ringed Plover *Charadrius placidus* is from this IBA (Eaton & Rheindt 2009).

This site has been selected as an IBA based on Criteria A1 (presence of globally threatened species) and A2 (presence of restricted-range species).

OTHER KEY FAUNA

The Leopard Cat *Felis bengalensis* is apparently common in the surrounding areas. Another major carnivore recorded is the Dhole or Wild Dog *Cuon alpinus*, which occasionally kills sheep at the nearby Government Sheep Breeding Farm. The Eurasian Otter *Lutra lutra* is still seen in the Sangti



DHRITMAN MUKHERJEE

Sangti Valley is popular among visitors and tourists due to its cultural, ecological, and biological values



PANKAJ CHANDAN

In the Sangti Valley in winter, the harvested paddyfields attracts small populations of Black-necked Crane *Grus nigricollis*. They are protected by the local communities

river. Among primates, the Assamese Macaque *Macaca assamensis* and Capped Langur *Trachypithecus pileatus* are common. The local Monpa tribals are Buddhist and do not kill or disturb birds, especially the Black-necked Crane.

LAND USE

- Agriculture

THREATS AND CONSERVATION ISSUES

- Loss of habitat
- Construction of roads
- Installation of electric lines
- Construction of houses

Felling of trees on the slopes for firewood is a problem, as it is denuding the forest cover and increasing siltation. Thanks to the local Buddhist Monpa tribe, who revere the

Black-necked Crane, poaching of this globally Threatened species is not a problem in Sangti Valley. However, pheasants are regularly snared by labourers of the General Road Engineers Force (GREF), who camp at different locations during road construction and repair. They also cut trees for domestic firewood.

Road construction or extension, especially the Dirang-Sangti road, has a negative impact on the Sangti Valley by increase in vehicular traffic, landslides, and denudation of forests. However, these roads are important for the Indian Army and for the general public to provide access to remote areas. Recently (as observed in December, 2014) a network of power lines is being laid across the valley, connecting all the households in the valley and also the villages to the north and north-east. This could be a major cause of bird mortality in future.



PEMA WANGE



PEMA WANGE

WWF-India has been working with communities for the protection of Black-necked Crane in Ladakh and Arunachal Pradesh



DHRITMAN MUKHERJEE

Long-billed Plover *Charadrius placidus* sometimes called Long-billed Ringed Plover, is a winter visitor from Nepal and North Uttar Pradesh to Assam Valley. It has been found breeding in Western Arunachal Pradesh, particularly in Sangti Valley

The local people have a benign attitude towards the Black-necked Crane, but they do not go out of their way to protect it, as in some other areas. Most of them are not aware of the crane's ecological importance. A conservation awareness programme would ensure greater support to protect the crane's wintering habitat in Sangti Valley. Conservation awareness programmes in Ladakh have shown very positive results, and the numbers of the Black-necked Crane there are on the rise. Similar programmes could be replicated here. The whole Sangti Valley, including paddyfields and the Sangti river, up to 1 km downstream of the sheep-breeding farm where the cranes often roost, should be declared as a Community Conservation Area, and an IBA.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Prakash Gole.

KEY REFERENCES

- Ali, S. and Ripley, S.D. (1987) *Compact Handbook of the Birds of India and Pakistan*. Oxford University Press, Bombay.
- Choudhury, A.U. (2000) The Black-necked Crane in Arunachal Pradesh. *The Twilight* 2 (2&3): 31–32.
- Choudhury, A.U. (2001) Birds in Sangti-Shergaon-Kalaktang areas of West Kameng district, Arunachal Pradesh. Pp. 27. Unpubl.
- Eaton, J. and Rheindt, F. (2009) Long-billed Plover *Charadrius placidus* nesting in its Himalayan wintering range: first breeding record for the Indian Subcontinent. *Forktail* 25: 152–153.
- Gole, P. (1996) *A Guide to the Cranes of India*. Bombay Natural History Society, Bombay. Pp. 36.
- Grimmett, R., Inskipp, C., and Inskipp, T. (1998). *Birds of the Indian Subcontinent*. Christopher Helm (Publishers) Ltd, London.
- Myers, N. (1988) Threatened Biotas: "Hotspots" in tropical forests. *Environmentalist* 8(3): 1–20.
- Myers, N. (1991) The biodiversity challenge: Expanded "hotspots" analysis. *Environmentalist* 10(4): 243–256.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

SHERGAON-TENZINGGANG-KALAKTANG

IN-AR-23

IBA Site Code	: IN-AR-23	Rainfall	: 1,500–2,000 mm
Administrative Region (State)	: Arunachal Pradesh	Temperature	: 0 °C to 30 °C
District	: West Kameng	Biogeographic Zone	: Himalaya
Coordinates	: 27° 23' 60" N, 92° 17' 60" E	Habitats	: Sub-tropical Pine Forest, Sub-tropical Broadleaf Hill Forest, Temperate Coniferous Forest, Temperate Broadleaf Hill Forest
Ownership	: Community		
Area	: c. 50,000 ha		
Altitude	: 1,000–3,200 msl		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

Shergaon, Tenzinggang, and Kalaktang are some of the poorly surveyed tracts in Arunachal Pradesh. This high biodiversity region is a global biodiversity hotspot (Myers 1988), as well as Eastern Himalaya Endemic Bird Area EBA 130 (Stattersfield *et al.* 1998). Shergaon, Tenzinggang, and Kalaktang can be treated as a unit comprising three separate but contiguous areas in West Kameng district. None of these areas are protected or even reserve forests, hence there is no well-defined boundary. The forests of Shergaon are contiguous with those of Eaglenest Wildlife Sanctuary (an IBA), while Mandla-Phudung IBA lies to the north.

This IBA mainly consists of mountainous country. The lowest parts in this montane area are about 1,000 m (near Kalaktang), while the highest are above 3,200 m (in Piri La area where this IBA meets Eaglenest IBA). This IBA extends over parts of Middle and Lesser Himalaya.

Annual rainfall varies from <1,500 mm on the northern slopes (partly rain-shadow zone) to >2,000 mm on the southern slopes which receive heavy rainfall. The temperature generally ranges from below zero in winter (minimum) to 30 °C in summer (maximum). Snowfall is experienced in winter in the higher reaches (especially above 2,200 m, occasionally down to 1,800 m).

The vegetation of this IBA includes Tropical Wet Evergreen Forest only in the lower areas near Kalaktang. Sub-tropical Forest is widespread, with both broadleaf as well as coniferous species. Broadleaf Forests occur generally between 1,800 and 2,800 m, while Coniferous Forests are present between 2,800 and 3,500 m. Various species of Oaks, Magnolia, and Rhododendron dominate the broadleaf forests. Three species of pines dominate the Sub-tropical Pine Forests, namely *Pinus roxburghii*, *P. wallichiana*, and *P. kesiya* (mostly planted).

AVIFAUNA

A bird survey of this little known wilderness was carried out in April end, May, and October, 2000 as part of the BNHS IBA project (Choudhury 2001). Prior to that, these areas were also visited in 1997, 1998, and 1999. This is the first ever detailed survey of the area. Some information on the birds of this region is also found in Singh (1994).

More than 300 species of birds have so far been recorded in the area. Many species could not be authentically identified due to poor visibility in dense forest. Furthermore, many commoner species which are likely to occur may have been missed.

Choudhury (2001) noted six species of pheasants, including the globally Threatened Blyth's Tragopan *Tragopan blythii* and Near Threatened Satyr Tragopan *Tragopan satyra*. Blyth's Tragopan was reported from Shergaon and hilltops near Morshing. Satyr Tragopan was uncommon but present all over the high elevation areas of temperate broadleaf and coniferous forests, especially above 2,000 m. It was the most abundant among the three tragopan species seen in this area. Temminck's Tragopan *Tragopan temminckii* is common at high elevation. According to Shashank Dalvi (*pers. comm.* 2014), Satyr Tragopan is extremely rare south of Sela Pass and common north of Sela Pass.

Ward's Trogon *Harpactes wardi* is another Near Threatened species reported from this IBA. Choudhury (2001) had only two sightings, just outside this IBA, but he found that near Tenzinggang and between Shergaon and Morshing there were good potential habitats.

The Rufous-necked Hornbill *Aceros nipalensis*, a Vulnerable species, occurs in this IBA but in low numbers. Above 1,500 m, this is the main hornbill species in sub-tropical broadleaf forests with mature trees. But it also occurs in tropical evergreen and temperate broadleaf forests. It was reported from Tenzinggang and Shergaon areas.

As Choudhury (2001) and others have conducted detailed surveys in this and surrounding areas, many interesting records are available. Choudhury (2001) observed a party of more than four individuals of Brown-cheeked Laughingthrush *Garrulax henrici*, earlier known as Prince Henri's Laughingthrush, near Tenzinggang at an elevation of 2,200 m on October 8, 2000. This is the second record from

India, the first being from northern Arunachal Pradesh (Grimmett *et al.* 1998). This species typically belongs to Tibet and Southeast China. Dickinson (2003) has recognized two subspecies. It is not known which subspecies was seen in Arunachal Pradesh.

Hoary-throated Barwing *Actinodura nipalensis* and Austen's or Streak-throated Barwing *Actinodura waldeni* are considered as restricted-range species of the Eastern Himalaya Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998). Both species were seen by Choudhury (2001) in this IBA. Similarly, White-naped Yuhina *Yuhina bakeri*, another restricted-range species, was also recorded. Beautiful Sibia *Heterophasia pulchella*, also a restricted-range species of this EBA, is a common resident with some seasonal altitudinal movement. It is found in temperate coniferous and broadleaf forest.

VULNERABLE

Blyth's Tragopan	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>

NEAR THREATENED

Ward's Trogon	<i>Harpactes wardi</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Blyth's Tragopan	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Streak-throated Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Warbler	<i>Tickellia hodgsoni</i>

OTHER KEY FAUNA

A small population of Asiatic Elephant *Elephas maximus* moves up to Shergaon in summer. During winter, they come down to the foothills and plains to avoid snowfall in Piri La. The Tiger *Panthera tigris* has become extremely rare because of poisoning in the past as revenge for cattle depredation. Other felines reported in the area include the Leopard *P. pardus*, Clouded Leopard *Neofelis nebulosa*, and Leopard Cat *Prionailurus bengalensis* (apparently common as many skins were seen at Shergaon). Other major carnivores recorded in the area are the Dhole or Wild Dog *Cuon alpinus* and Asiatic Black Bear *Ursus thibetanus*. The latter is persecuted for its bile and gall bladder. Once a bear is shot, traders from Bhutan take away the gall bladder and other parts. The meat is often consumed locally. Red Panda *Ailurus fulgens* occurs all over, above 2,000 m (Choudhury 2001).

Other noteworthy mammals are Assamese Macaque *Macaca assamensis* including the newly described race *M. a. munzala*, Capped Langur *Trachypithecus pileatus*, Siberian Weasel *Mustela sibirica*, Jungle Cat *Felis chaus*, Sambar *Rusa unicolor*, Barking Deer *Muntiacus muntjak*, Takin *Budorcas taxicolor*, Himalayan Serow *Capricornis thar*, Himalayan Goral *Naemorhedus goral*, and Bhutan Giant Flying Squirrel *Petaurista nobilis*. The Alpine Musk Deer *Moschus chrysogaster* is only occasionally met with (Choudhury 2013).

The local tribes, mostly Monpas and Sherdukpens, are Buddhist and do not kill primates for food. However, a few Assamese Macaque are occasionally killed to reduce depredation in maize fields.

LAND USE

- Agriculture
- Forestry

THREATS AND CONSERVATION ISSUES

- Loss of habitat
- Poaching
- Construction of roads
- Yak grazing

Illegal felling of trees on the slopes is still a problem, despite the ban on tree felling by the Supreme Court.

Accidental and deliberate forest fires also occasionally damage habitat, especially in dry winter in the higher areas with temperate conifers. For instance, in early 1999, large tracts were burnt due to dry this reason in winter.

Road construction and extension have short-term as well as long-term impacts. The short-term impact is from the labourers brought in for the General Road Engineers Force (GREF), who camp at different locations during road construction/repair. They cut natural vegetation for fuel for cooking and heating. Many labourers who come from the plains do not have a benign attitude towards wildlife, unlike the locals. As the road construction progresses, wildlife becomes scarce all along the way, indicating heavy poaching pressure.

The long-term impact is that these roads open up areas for vehicular traffic and settlements. Poachers take advantage of the increased accessibility, and sometimes induce the local people to become part of a commercial poaching mafia. The main targets of widespread poaching are pheasants and ungulates. Pheasants are regularly snared by GREF labourers. Some hunters have trained dogs to flush out pheasants and mammals.

Areas in the south and southwest of Shergaon, and up to Eaglenest Sanctuary, the valley of Tenzinggang, and the hill



Indian Purple Emperor *Mimathyma ambica*

DIWAKAR THOMBRE

ranges between Shergaon and Morshing could be declared as Village Reserve Forests or CCA, as excellent primary forest is still found. These forests belong to village communities, like many other forests in Arunachal Pradesh.

GREF should ensure that their labourers do not indulge in poaching and large-scale removal of natural vegetation. Their dependency on wood could be minimized by supplying them with gas for cooking and coal for heating.

KEY CONTRIBUTOR

Anwaruddin Choudhury

KEY REFERENCES

- Choudhury, A.U. (2001) Birds in Sangti-Shergaon-Kalaktang areas of West Kameng district, Arunachal Pradesh. Pp. 27. Unpubl.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- Dickinson, E.C. (Ed.) (2003) *The Howard and Moore Complete Checklist of the Birds of the World*. 3rd edn. Christopher Helm, London.
- Grimmett, R., Inskipp, C., and Inskipp, T. (1998) *Birds of the Indian Subcontinent*. Christopher Helm (Publishers) Ltd, London.
- Myers, N. (1988) Threatened Biotas: "Hotspots" in tropical forests. *Environmentalist* 8(3): 1–20.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World, Priorities for Biodiversity Conservation*. BirdLife International, Cambridge, UK. Pp. 846.

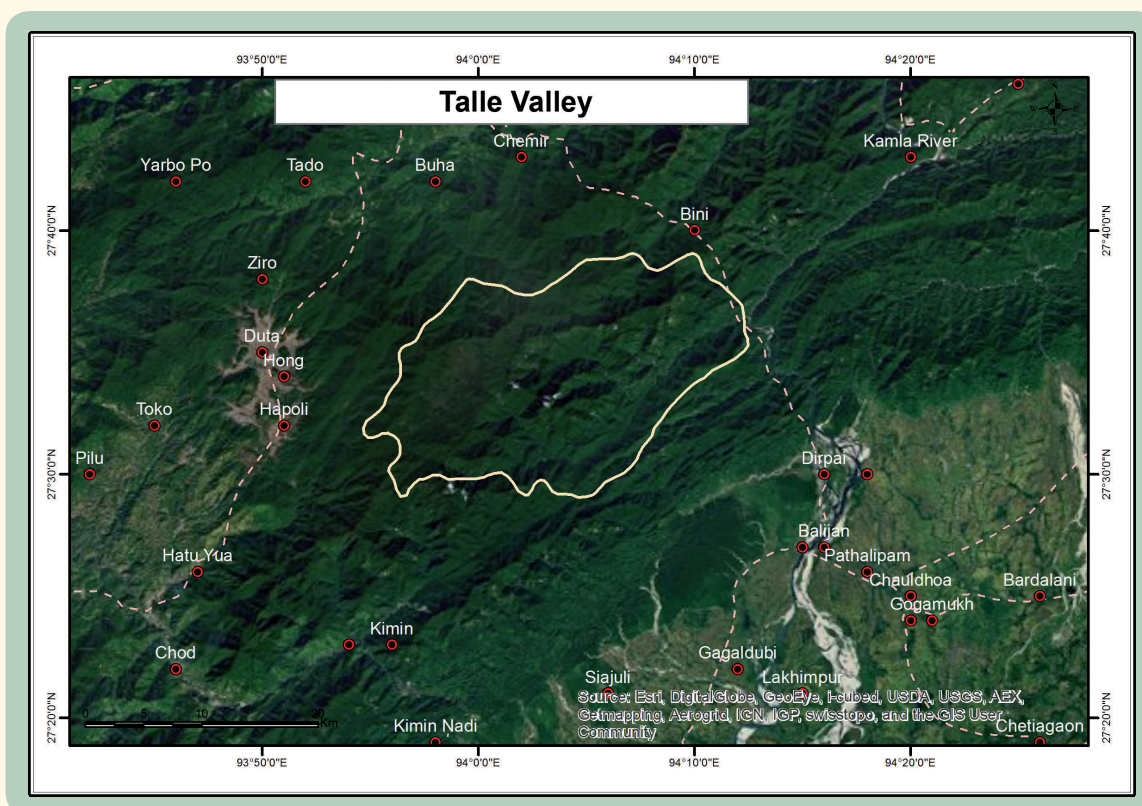
TALLE (TALLEY) VALLEY WILDLIFE SANCTUARY AND RESERVE FOREST

IBA Site Code	: IN-AR-24	Altitude	: 120–3,000 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >2,500 mm
District	: Lower Subansiri	Temperature	: 0 °C to 30 °C
Coordinates	: 27° 41' 24" N, 93°50' 60" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Tropical Wet Evergreen Forest, Sub-tropical Broadleaf Hill Forest, Sub-tropical Pine Forest, Grassland
Area	: 51,587 ha		

IN-AR-24

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS: Wildlife Sanctuary, established July, 1995.



GENERAL DESCRIPTION

A portion of the Talle (Talley) Valley Reserve Forest in Lower Subansiri district of Arunachal Pradesh with an area of 337 sq. km was declared as a wildlife sanctuary on July 14, 1995. The area of the reserve forest is c. 51,587 ha. We have considered the whole Reserve Forest and Wildlife Sanctuary as an IBA. The Valley proper is c. 30 km from the district headquarters, Hapoli. The area lies between the Subansiri, Supu, and Pange rivers. It is surrounded by hills clothed densely with thick vegetation.

There are two main valleys: the Pange Valley and the Talle or Talley Valley. While Pange Valley is a narrow strip along the Pange river, Talle Valley is a broad flat

area covered with grass and small waterbodies. Small rivers, flowing through these valleys, have formed deep gorges and rapid waterfalls. The smaller streams drain into the Subansiri river, which ultimately joins the mighty Brahmaputra. The hills are gently sloping, except for a few peaks that are very steep.

The following forest types are found in Talle Valley area: East Himalayan Sub-tropical Forest, East Himalayan Wet Temperate Forest, Lauraceae Forest, Oak Forest, High-level Oak Forest, and East Himalayan Mixed Coniferous Forest (Haridasan *et al.* 1999). The site is a refuge to a few rare and endangered plants, and abounds economically important plants. Talle Valley is also known for dense

growth of bamboo. Five species of bamboo are recorded, of which *Pleioblastus simonii* is known in India only from here (Haridasan *et al.* 1999). The Yew tree *Taxus baccata*, that has come under increasing pressure from illegal collectors due to its medicinal property, is still seen in Talle Valley. The lower areas, including the tract where this IBA touches the Subansiri river, have tropical wet evergreen forest (Anwaruddin Choudhury, *pers. comm.* 2014).

Talle Valley shows some very interesting phenomena as far as vegetation is concerned. Normally, in altitudinal succession of vegetation types, coniferous forest appears above the broadleaf type. Here, it is the reverse. The coniferous forest appears in the valleys, while broadleaf trees are seen on the hilltops.

Some plants found in the area are extremely rare and highly endangered. Some like the orchid *Paphiopedilum wardii* are believed to be extinct. Yet others are known only from restricted localities in Arunachal Pradesh, that too only for a limited time. Some species, that are locally abundant, are rare at the national or global level. In such instances, we need to make greater efforts to conserve the plants for the benefit of mankind (Haridasan *et al.* 1999).

The Talle Valley and adjoining area is the land of the Apatani tribe, which is well-known for its conservation ethics and sustainable practices.

AVIFAUNA

About 159 bird species have been recorded in Talle Valley WLS so far (Singh 1994). Most of these species breed here, enhancing the importance of this IBA site. The only globally Threatened species confirmed from this area is the Rufous-necked Hornbill *Aceros nipalensis*. Presence of Blyth's Tragopan *Tragopan blythii*, another Threatened species, has yet to be confirmed, though the related Temminck's Tragopan *Tragopan temminckii* is reported. A few notable bird records from this IBA site include the Purple Cochoa *Cochoa purpurea* (Singh 1994). This rare species is reported to breed in Talle Valley forests. A record of Yellow-rumped Honeyguide *Indicator xanthonotus* is also noteworthy.

The Eurasian Tree-creeper *Certhia familiaris*, a bird of the Western Himalaya, was first noted by Singh (1994) from Talle Valley, which is a considerable eastward extension of its range in the Himalaya. Another first record from Arunachal Pradesh is that of the Silver-backed Needletail *Hirundapus cochinchinensis*, seen by Singh (1994) in March, 1994 at an elevation of 2,400 m.

Of the 21 species recorded in India in the Eastern Himalaya EBA (Stattersfield *et al.* 1998), 10 have been reported from this IBA. There are not many IBAs in this EBA where so many restricted-range species are found.

Due to altitudinal variation from 120 m to 3,000 m, this site represents three biomes: Biome 7 (Sino-Himalayan

VULNERABLE

Chestnut-breasted Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan (?)	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon	<i>Harpactes wardi</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

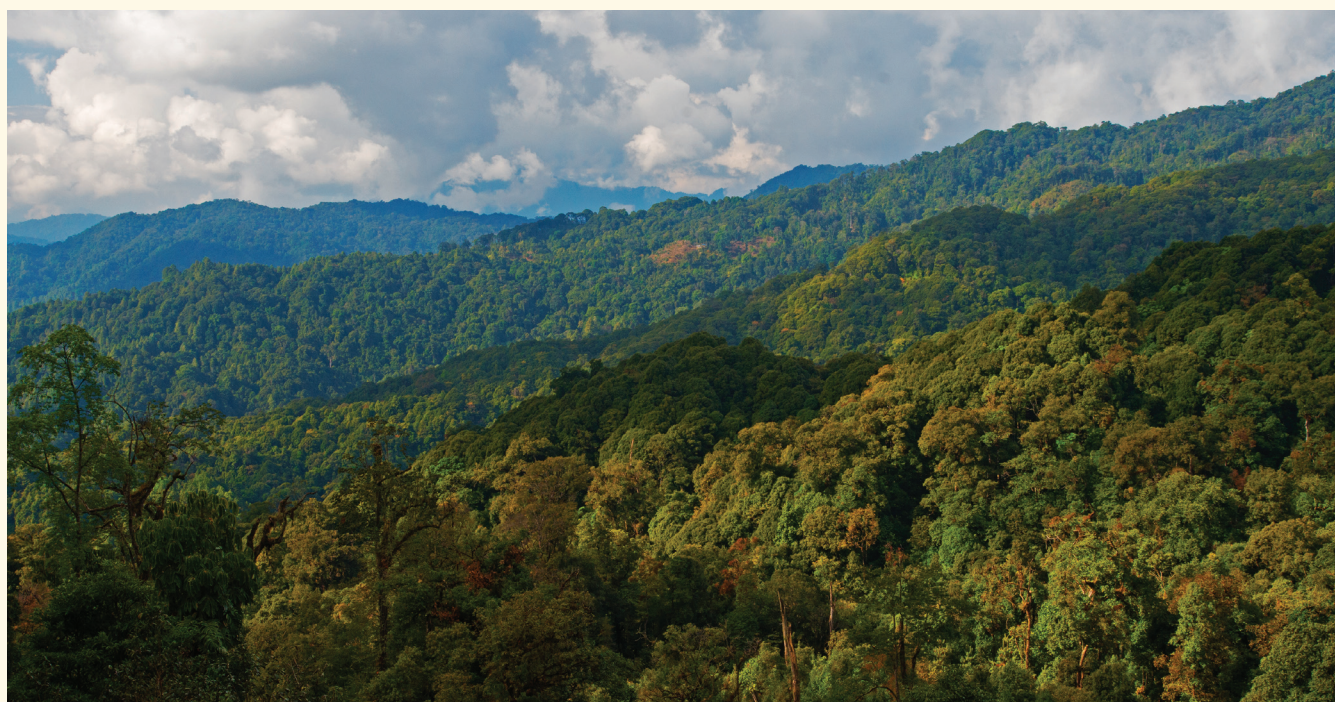
Chestnut-breasted Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan (?)	<i>Tragopan blythii</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Rufous-throated Wren-babbler	<i>Spelaornis caudatus</i>
Streak-throated Barwing	<i>Actinodura waldeni</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Warbler	<i>Tickellia hodgsoni</i>

Temperate Forest), Biome 8 (Sino-Himalayan Sub-tropical Forest), and Biome 9 (Indo-Chinese Tropical Moist Forest). A total of 58 biome-restricted species are found in this IBA, but they are too many to list here. Some interesting species seen here are Common Hill-partridge *Arborophila torqueola*, Striated Laughingthrush *Garrulax striatus*, Slender-billed Scimitar-babbler *Xiphirhynchus superciliaris*, Rusty-flanked Tree-creeper *Certhia nipalensis*, Crimson-browed Finch *Pinicola subhimachala*, Brown Bullfinch *Pyrrhula nipalensis*, Rusty-fronted Barwing *Actinodura egertoni*, Red-headed Tit *Aegithalos concinnus*, Black-spotted Yellow Tit *Parus spilonotus*, and Black-throated Sunbird *Aethopyga saturata*.

The Great Pied Hornbill *Buceros bicornis* is found in the southern part of the IBA. Recently a Ward's Trogon *Harpactes wardi* was photographed by members of the local NGO Ngunu Ziro. They also photographed a Beautiful Nuthatch *Sitta formosa* just outside the IBA. During a recent study in 2012 by Anwaruddin Choudhury (unpubl.), the Red-headed Trogon *Harpactes erythrocephalus* (sighting) and the Greater Necklaced Laughingthrush *Garrulax pectoralis* (camera trap) were recorded well above their known upper limit.

OTHER KEY FAUNA

The Talle Valley is famous for rare and elusive cats such as the Clouded Leopard *Neofelis nebulosa* and Golden Cat *Catopuma temminckii*. Some other mammals found in the area are Tiger *Panthera tigris*, Leopard *P. pardus*, Leopard Cat *Prionailurus bengalensis*, Capped



DHIRTIMAN MUKHERJEE

As Talle Valley Wildlife Sanctuary and Reserve Forest range from 120 msl to 3,000 msl it has seven to eight types of forests resulting in very high biodiversity

Langur *Trachypithecus pileatus*, Asiatic Black Bear *Ursus thibetanus*, and Chinese Pangolin *Manis crassicaudata*. Camera trapping by the local NGO Ngunu Ziro has recorded, among others, the elusive Marbled Cat *Pardofelis marmorata*, Dhole or Asian Wild Dog *Cuon alpinus*, and Himalayan Serow *Capricornis thar* in 2010. The Himalayan Goral *Naemorhedus goral*, Assamese Macaque *Macaca assamensis*, Rhesus Macaque *M. mulatta* (only in lower areas of the southeast part), Large Indian Civet *Viverra zibetha*, Yellow-throated Marten *Martes flavigula*, and Himalayan Crestless Porcupine *Hystrix brachyura* have also been recorded (Choudhury 2013).

LAND USE

- Nature conservation
- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Lower Subansiri Hydroelectric Project
- Hunting in south-eastern lower areas of the IBA near Subansiri river

In India, Talle Valley is one of the few examples of pristine climax vegetation. Though the forests in the sanctuary are intact, the surrounding hills are almost barren.

Talle Valley Wildlife Sanctuary and Reserve Forest is in great danger of being irreversibly damaged if the Lower Subansiri Hydroelectric Project is completed (Vaghlikar & Ahmed 2003). Intended to generate 2,000 MW electricity, the dam would submerge 3,436 ha of forest. The Environmental Impact Assessment report that has been submitted by the project authorities has glaring errors in the biodiversity

and wildlife components. The project has been cleared by the Central Government despite the violations by the project under the Environment Protection Act and the Forest Conservation Act. The downstream impacts of such a large project on fisheries, rice cultivation, and endangered species such as the Ganges River Dolphin *Platanista gangetica* have not been considered. Moreover, the area is prone to earthquakes and landslides, a fact that appears to have been glossed over by the project authorities. In the meantime, more than half of the construction work has been completed. Owing to large-scale public protest, work has been temporarily suspended since December 2011, but it may resume at any moment.

KEY CONTRIBUTORS

B.B. Bhatt, K. Haridasan, P. Singh, R. Suresh Kumar, Bikul Goswami, Anwaruddin Choudhury, Manju Menon.

KEY REFERENCES

- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- Haridasan, K., Borang, A., and Singh, P. (1999) Baseline survey of biodiversity in high priority biological rich areas of Arunachal Pradesh. State Forest Research Institute, Itanagar.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World – Priorities for Biodiversity Conservation*. Birdlife International, Cambridge, UK. Pp. 846.
- Vaghlikar, N. and Ahmed, F. (2003) Tracking a Hydel Project: the story of Lower Subansiri. *The Ecologist Asia* 11(1): 25–32.

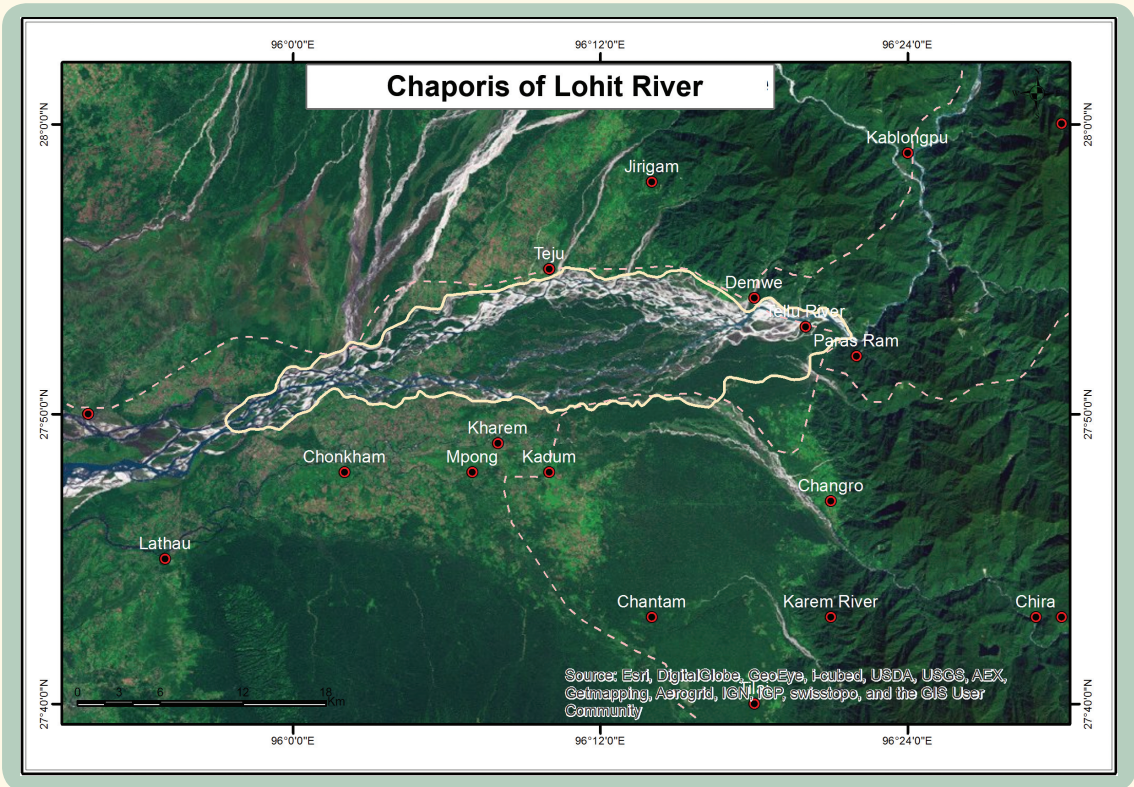
CHAPORIS OF LOHIT RIVER

IN-AR-25

IBA Site Code	: IN-AR-25	Altitude	: 150 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: 2,000–4,000 mm
District	: Lohit	Temperature	: 7 °C to 35 °C
Coordinates	: 27° 53' N, 96° 05' E	Biogeographic Zone	: Himalaya
Ownership	: State, Community	Habitats	: Riverine Forest,
Area	: 20,000 ha		Savanna Grassland, Wetland

IBA CRITERIA : A1 (Threatened species)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

This IBA named Chaporis (= riverine islands and tracts) of Lohit River starts from the Assam-Arunachal Pradesh border near Sadiya and extends eastwards, forming part of the Assam Plains Endemic Bird Area (EBA 131). This IBA also includes the entire riverbed of the Lohit, at places more than 10 km wide with sandy and grassy tracts. The area constitutes the floodplains of the Lohit river and the entire area is criss-crossed by numerous channels, creating a complex of waterbodies, riverine islands, grassland, and forest. The area has a rich assemblage of grassland birds (Choudhury 2010).

AVIFAUNA

More than 180 species of birds have been already listed

during wildlife surveys, and hence the total diversity could be more than 300 species, including a large number of wintering waterfowl (Anwaruddin Choudhury, *pers. comm.* 2003, 2014). The only Endangered species confirmed was the Bengal Florican *Houbaropsis bengalensis* (Choudhury 1996). The White-winged Duck *Asarcornis scutulata* was reported, and is very likely to be present, but a confirmed sighting is needed. Among the Vulnerable species, two were recorded from the area: Lesser Adjutant *Leptoptilos javanicus* and Swamp Francolin *Francolinus gularis* (Choudhury 2004). Spot-billed Pelican *Pelecanus philippensis* was recorded just west of this IBA in Assam. There is extensive potential habitat for populations of Jerdon's Babbler *Chrysomma altirostre* and Black-breasted Parrotbill *Paradoxornis flavirostris*. The Critically Endangered White-bellied Heron

Ardea insignis has been reported by local hunters and graziers, even in 2014 (this is very likely, but confirmation is required).

In winter, there are large congregations of Great Cormorant *Phalacrocorax carbo* and Ruddy Shelduck *Tadorna ferruginea* (often in hundreds), Goosander *Mergus merganser* in smaller groups all over, Ibisbill *Ibidorhyncha struthersii*, and many species of ducks.

OTHER KEY FAUNA

Among major mammals there are Tiger *Panthera tigris* (now occasional), Asiatic Elephant *Elephas maximus*, the rare Asiatic Wild Buffalo *Bubalus arnee (=bubalis)* (Choudhury 1999), and Hog Deer *Axis porcinus*. Ganges River Dolphin *Platanista gangetica* is occasionally seen in the extreme western part of the IBA. Other notable mammals recorded in the area are Rhesus Macaque *Macaca mulatta*, Golden Jackal *Canis aureus*, Asiatic Black Bear *Ursus thibetanus*, Sloth Bear *Melursus ursinus* (probably extirpated: easternmost range of the species), Eurasian Otter *Lutra lutra*, Smooth-coated Otter *Lutrogale perspicillata*, Jungle Cat *Felis chaus*, Leopard Cat *Priolainurus bengalensis*, Fishing Cat *P. viverrinus*, Swamp Deer *Rucervus duvaucelii* (now in all probability extirpated), Crestless Himalayan Porcupine *Hystrix brachyura*, and Rufous-tailed Hare *Lepus nigricollis ruficaudatus* (Choudhury 2013).

Among reptiles, Gharial *Gavialis gangeticus* has not been reported in recent years.

LAND USE

- Forestry
- Fishing
- Navigation

THREATS AND CONSERVATION ISSUES

- Encroachment
- Hunting and fishing
- Grazing, felling of trees
- Contruction of Demwe and other dams

The proposed dams in the upper reaches, especially the large project at Demwe, just upstream of this IBA, will have serious impacts on the downstream ecosystem and the entire riverine tract will be affected. A detailed survey is recommended, especially for the smaller Threatened birds such as Jerdon's Babbler and Black-breasted Parrotbill.

Based on the site inspection report, Rahmani (2011) suggested rejection of the proposal for construction of the

CRITICALLY ENDANGERED

White-bellied Heron (?)	<i>Ardea insignis</i>
White-rumped Vulture	<i>Gyps bengalensis</i>
Slender-billed Vulture	<i>Gyps tenuirostris</i>
Red-headed Vulture	<i>Sarcogyps calvus</i>
Bengal Florican	<i>Houbaropsis bengalensis</i>

ENDANGERED

White-winged Duck (?)	<i>Asarcornis scutulata</i>
-----------------------	-----------------------------

VULNERABLE

Lesser Adjutant	<i>Leptoptilos dubius</i>
Swamp Francolin	<i>Francolinus gularis</i>

NEAR THREATENED

Oriental Darter	<i>Anhinga melanogaster</i>
Cinereous Vulture	<i>Aegypius monachus</i>

1,750 MW Demwe Lower Hydro Project near Parshuram Kund, to protect an ecologically sensitive stretch of the lower Lohit river and its tributaries. Dropping the project will also help maintain a degree of longitudinal connectivity between the plains and uplands, considering the fact that a cascade of seven large hydroelectric projects proposed on the main Lohit river will lead to a serious fragmentation of the river. This will also help protect the environment in and around the cultural heritage site, Parshuram Kund. However, the MoEF has cleared the Demwe project.

KEY CONTRIBUTOR

Anwaruddin Choudhury.

KEY REFERENCES

- Choudhury, A.U. (1996) Survey of the White-winged Wood Duck and Bengal Florican in Tinsukia district and adjacent areas of Assam and Arunachal Pradesh. The Rhino Foundation for nature in NE India. Guwahati. 82 pp.
- Choudhury, A.U. (1999) Status of the wild water buffalo *Bubalus arnee* in Lohit district, Arunachal Pradesh. *JBNHS* 96(1): 130–132.
- Choudhury, A.U. (2004) *A Pocket Guide to the Birds of Arunachal Pradesh*. Gibbon Books and The Rhino Foundation for nature in NE India, Guwahati.
- Choudhury, A.U. (2010) The chapories of the Lohit river – Arunachal's IBA under threat. *Mistnet* 11(4): 13–14.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for nature in NE India (supported by COA, Taiwan), Guwahati, India. Pp. 432.
- Rahmani, A.R. (2011) Proposal for construction of 1,750 MW Demwe Lower Hydro Project In Lohit District, Arunachal Pradesh. Report submitted to the Ministry of Environment and Forests, Government of India. Pp. 21.

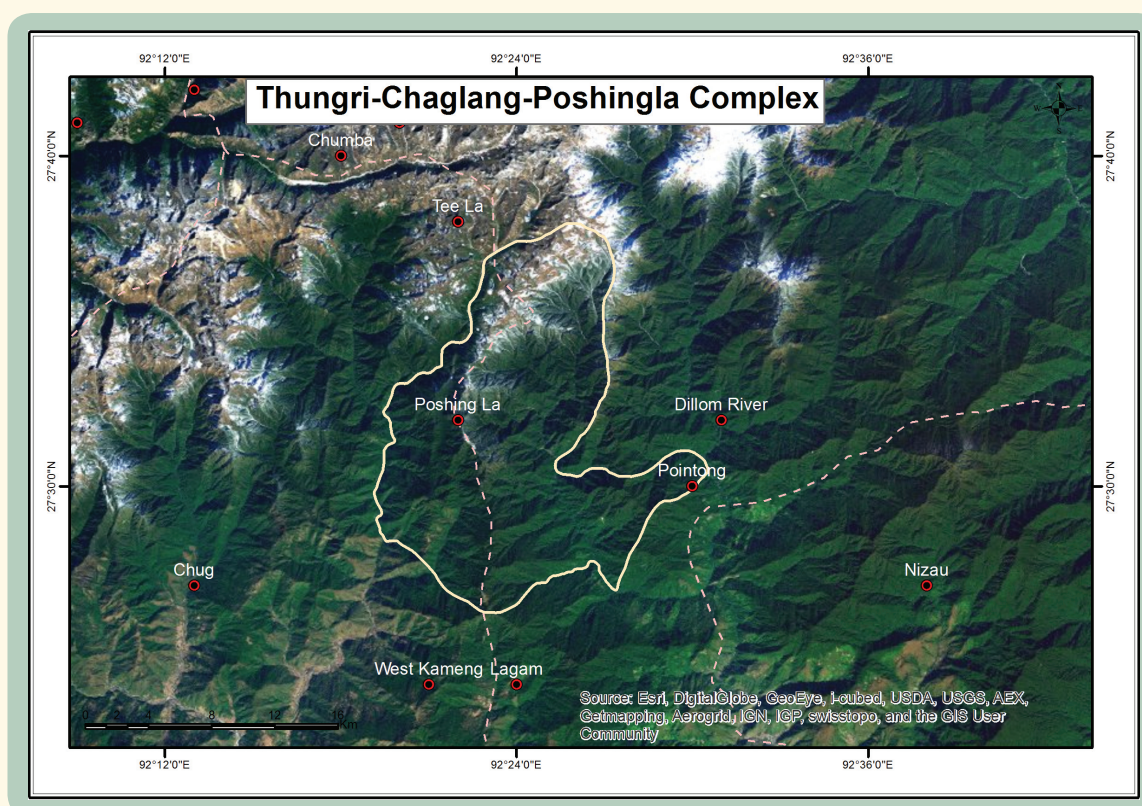
THUNGRI-CHAGLANG-POSHINGLA COMPLEX

IN-AR-26

IBA Site Code	: IN-AR-26	Area	: c. 50,000 ha
Administrative Region (State)	: Arunachal Pradesh	Altitude	: 2,000–4,500 msl
District	: West Kameng	Rainfall	: >1,200 mm
Coordinates	: 27° 31' 60" N, 92° 21' 60" E	Temperature	: Subzero to 20 °C
Ownership	: Community	Biogeographic Zone	: Himalaya
		Habitats	: Temperate Broadleaf and Coniferous Forests

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

This is a remote area that has all the necessary features to be considered an IBA. It is large and thinly populated, with many inaccessible areas where the forest cover is largely intact. It is part of the Great Himalaya, with rugged topography and steep rocky slopes. The forest cover consists of Temperate Broadleaf in the lower areas and Coniferous Forests in the higher areas. Fir *Abies* spp. dominate the coniferous forests on the hilltops. Bamboo brakes in the gorges along hill streams, and rhododendrons on the middle to higher reaches, provide habitats for many species of birds.

AVIFAUNA

According to Anwaruddin Choudhury (*pers. comm.* 2003), four species of pheasants are found in this area, namely the Satyr Tragopan *Tragopan satyra*, Temminck's Tragopan *T. temminckii*, Blyth's Tragopan *T. blythii*, and Blood Pheasant *Ithaginis cruentus*. Of these, Blyth's Tragopan is a globally Threatened (BirdLife International 2001) and restricted-range species (Stattersfield *et al.* 1998). A total of seven restricted-range species are found in this IBA, but five need further confirmation, and there could be more because the area has not been studied properly. As the habitat is largely intact, many species of Biome 7 (Sino-Himalayan Temperate Forest) and Biome 5 (Eurasian High Montane Forest – Alpine

and Tibetan) are likely to occur. This site has been selected as an IBA on the basis of A1 (Threatened species) and A2 (restricted-range) criteria, but this site definitely satisfies A3 criteria also (biome-restricted assemblages of birds) (BirdLife International, undated). However, proper documentation of the biome species of this IBA is not available. There are several high elevation lakes in the area, where Ruddy Shelduck *Tadorna ferruginea* breeds and the Bar-headed Goose *Anser indicus* may be breeding, which needs further confirmation.



DHIRTIMAN MUKHERJEE

Beautiful Sibia *Malacias pulchella* is one of the endemic species of the Eastern Himalaya

OTHER KEY FAUNA

This IBA has high altitude mammals such as Alpine Musk Deer *Moschus chrysogaster*, Black Musk Deer *M. fuscus*, Bharal *Pseudois nayaur*, Takin *Budorcas taxicolor*, Himalayan Goral *Naemorhedus goral*, Himalayan Serow *Capricornis thar*, Pale Weasel *Mustela altaica*, Red Fox *Vulpes vulpes*, Himalayan Marmot *Marmota himalayana*, and possibly Snow Leopard *Panthera uncia*. Other notable mammal species found are Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Leopard Cat *Prionailurus bengalensis*, Clouded Leopard *Neofelis nebulosa*, Leopard *Panthera pardus*, Eurasian Otter *Lutra lutra*, Barking Deer *Muntiacus muntjak*, Assamese Macaque *Macaca assamensis*, Capped Langur *Trachypithecus pileatus*, and Bhutan Giant Flying Squirrel *Petaurista nobilis*. The Dhole *Cuon alpinus* is not uncommon and often attacks domestic yaks (Choudhury 2013).

VULNERABLE

Chestnut-breasted Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal (?)	<i>Lophophorus sclateri</i>

NEAR THREATENED

Ward's Trogon (?)	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Chestnut-breasted Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal (?)	<i>Lophophorus sclateri</i>
Ward's Trogon (?)	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Beautiful Sibia	<i>Malacias pulchella</i>
Broad-billed Warbler (?)	<i>Tickellia hodgsoni</i>

LAND USE

- Agriculture
- Forestry

THREATS AND CONSERVATION ISSUES

- Firewood collection
- Poaching

Poaching, yak grazing, and timber cutting occurs around villages and settlements, but their full impact is not known due to the remoteness of the area and sparse human population.

KEY CONTRIBUTORS

B.B. Bhatt, Shashank Dalvi, Anwaruddin Choudhury.

KEY REFERENCES

- BirdLife International (undated) *Important Bird Areas (IBAs) in Asia: Project Briefing Book*. BirdLife International, Cambridge, UK. Unpubl.
- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. Pp. 432.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

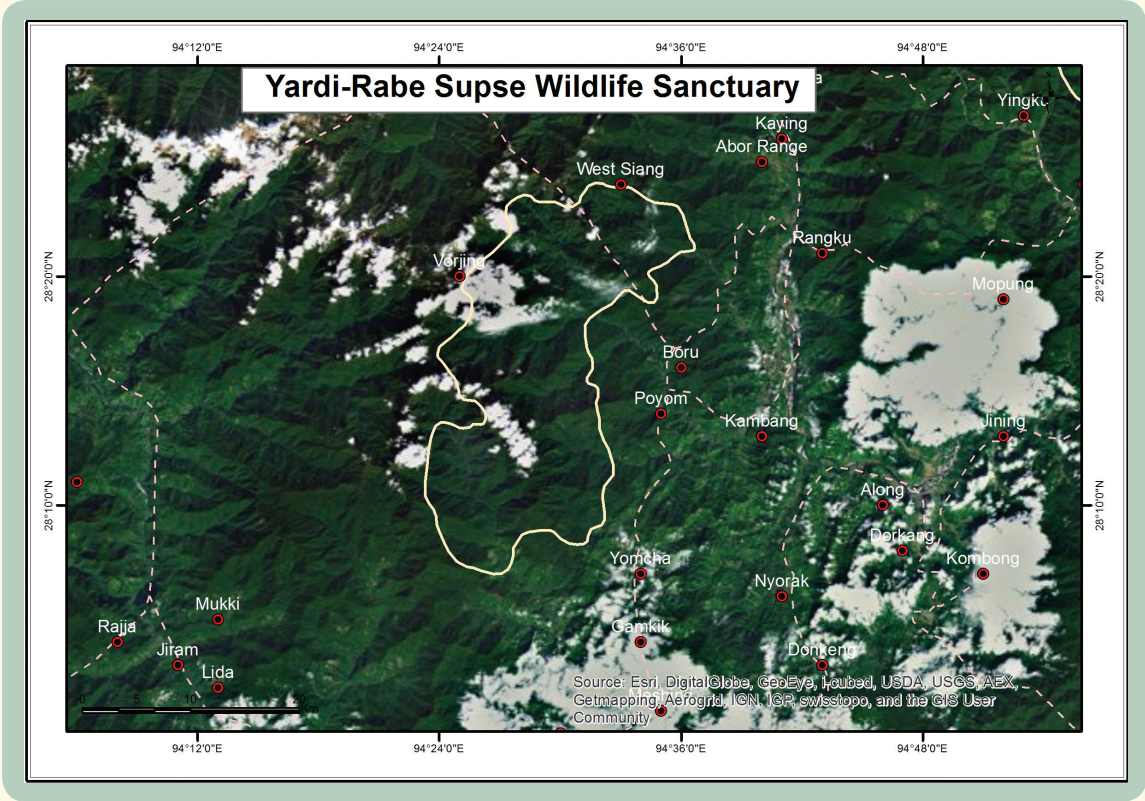
YARDI-RABE SUPSE WILDLIFE SANCTUARY

IN-AR-27

IBA Site Code	: IN-AR-27	Altitude	: 1,500–3,500 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >2,500 mm
District	: West Siang	Temperature	: 0 °C to 24 °C
Coordinates	: 29° 00' 59" N, 95° 12' 31" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Sub-tropical Broadleaf Hill Forest, Sub-tropical Pine Forest, Montane Wet Temperate Forests
Area	: 49,600 ha		

IBA CRITERIA : A1 (Threatened species), Data Deficient

PROTECTION STATUS: Wildlife Sanctuary, established February, 1998.



GENERAL DESCRIPTION

Yardi-Rabe (or Yordi-Rabe) Supse Wildlife Sanctuary is a virtually unknown protected area in West Siang district of Arunachal Pradesh in the Lesser Himalaya. Although the sanctuary has been notified, community rights have not yet been settled fully, and there may be some alteration in area at the time of finalization. This is a Data Deficient site, but extremely important because it has some globally Threatened avian species. The area is entirely montane with hills and deep gorges. The vegetation ranges from Sub-tropical to Temperate Forests. A large part of this IBA is remote and inaccessible (Anwaruddin Choudhury, *pers. comm.* 2003).

AVIFAUNA

The avian diversity of this IBA is almost unknown, except for the Vulnerable Rufous-necked Hornbill *Aceros nipalensis*, of which a sizeable population is believed to exist. Unconfirmed reports of Blyth's Tragopan *Tragopan blythii* and Chestnut-breasted Hill-partridge *Arborophila mandellii* have also been received.

OTHER FAUNA

The area has several species of mammals, many of which could be identified from the collections of former hunters. Some notable species are Alpine Musk Deer *Moschus*



ANWARUDDIN CHOUDHURY

Yardi-Rabe Supse Wildlife Sanctuary is yet to be surveyed. This IBA has some fine, untouched, primary forest

chrysogaster, Takin *Budorcas taxicolor*, Himalayan Goral *Naemorhedus goral*, Himalayan Serow *Capricornis thar*, Dhole *Cuon alpinus*, Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Leopard Cat *Prionailurus bengalensis*, Clouded Leopard *Neofelis nebulosa*, Leopard *Panthera pardus*, Spotted Linsang *Prionodon pardicolor*, Eurasian Otter *Lutra lutra*, Barking Deer *Muntiacus muntjak*, Sambar *Rusa unicolor*, Assamese Macaque *Macaca assamensis*, Capped Langur *Trachypithecus pileatus*, and Hodgson's Giant Flying Squirrel *Petaurista magnificus*. The recently described Mechuka Giant Flying Squirrel *Petaurista mechukaensis* is also likely to occur in the northern areas (Choudhury 2013).

LAND USE

- Nature conservation
- Forestry

THREATS AND CONSERVATION ISSUES

- Hunting
- Felling of trees

VULNERABLE

Blyth's Tragopan (?)	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>

As this is a remote, inaccessible area, poaching and felling of trees is insignificant. The main issue now is finalization of the sanctuary by government and clarification on the rights of the local community. In recent years, a major road connecting Tato with Nacho/Limeking is under construction through a part of the sanctuary and there are reports of poaching of Takin and galliforms by the labourers engaged in the project.

KEY CONTRIBUTORS

Anwaruddin Choudhury, M.K. Palit.

KEY REFERENCE

Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for nature in NE India (supported by COA, Taiwan), Guwahati, India. Pp. 432.

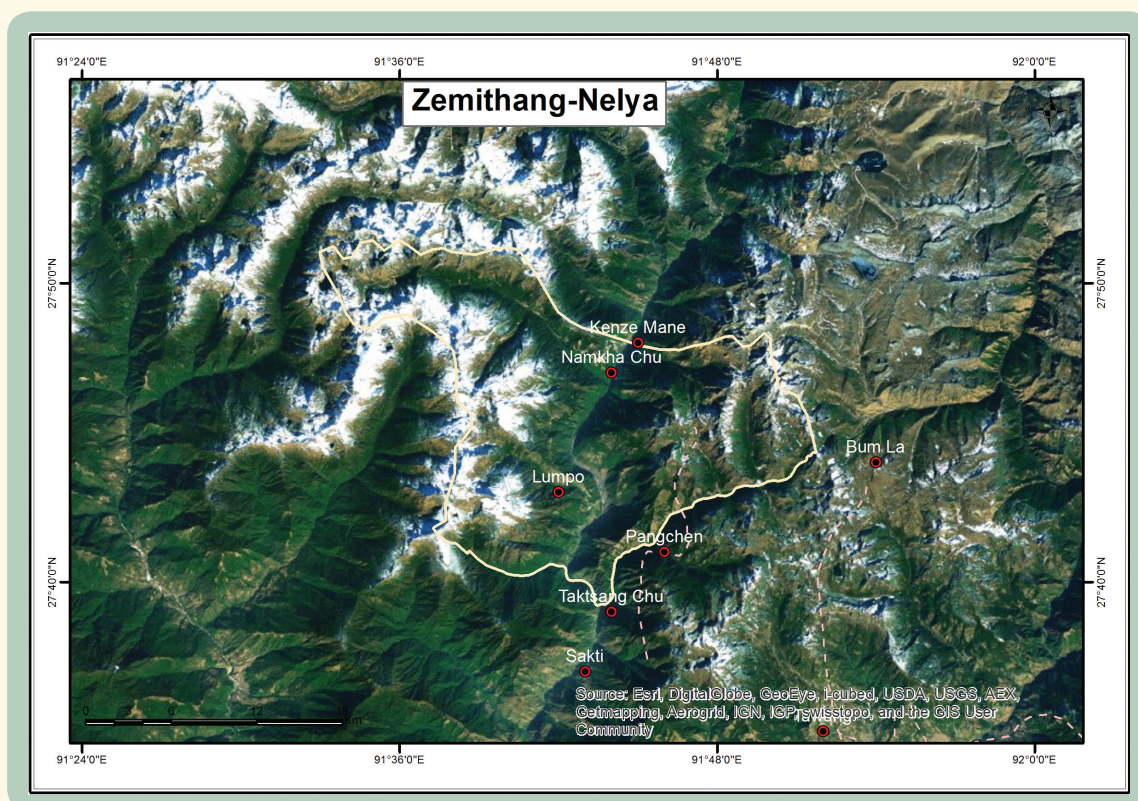
ZEMITHANG-NELYA

IN-AR-28

IBA Site Code	: IN-AR-28	Altitude	: 2,000–5,000 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: >1,500 mm
District	: West Kameng	Temperature	: Subzero to 25 °C
Coordinates	: 27° 42' 28" N, 92° 22' 38" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Sub-tropical Pine Forest, Sub-tropical Broadleaf Hill Forest, Sub-alpine Scrub
Area	: 30,000 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

This is a remote mountainous area at the trijunction of India, Bhutan, and Tibet. Much of its border is under the control of the Indian Army. Owing to altitudinal variation from 2,000 to >5,000 m, the forest cover varies from Temperate Coniferous and Broadleaf Forests to Sub-alpine and Alpine Scrub. It also has high altitude lakes, good sites for breeding waterfowl of which Ruddy Shelduck *Tadorna ferruginea* has been confirmed (Anwaruddin Choudhury, pers. comm. 2003).

AVIFAUNA

Detailed information on the birdlife is not available. Singh

(1999) and his team recorded 118 species during six days of birdwatching in the Tawang-Zemithang area, between 1,770 and 4,900 msl. They added the following species for Arunachal Pradesh from this site: Peregrine Falcon *Falco peregrinus*, Upland Buzzard *Buteo hemilasius*, White-browed Tit-warbler *Leptopoeile sophiae*, and Streaked Rosefinch *Carpodacus rubicilloides*.

This is the second site in Arunachal Pradesh where Black-necked Crane *Grus nigricollis*, a Vulnerable species (BirdLife International 2001), is found (Choudhury 2000). These cranes are found in winter in Zemithang Valley, on the banks of Nyamjang Chu (*Chu* = river). Zemithang is 95 km from Tawang and 250 km from Sangti Valley by road, and

VULNERABLE

Black-necked Crane	<i>Grus nigricollis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon (?)	<i>Harpactes wardi</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Ward's Trogon (?)	<i>Harpactes wardi</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Brown-throated Fulvetta	<i>Fulvetta ludlowi</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Broad-billed Warbler	<i>Tickellia hodgsoni</i>

only 20 km and 65 km respectively as the crow flies. Sangti Valley (an IBA) is another site where the Black-necked Crane is regularly found (Choudhury 2001). However, Maheswaran (2013) did not see this crane during his three surveys in the region starting from 2007, but cranes were again sighted in Sangti in December 2014 (Anwaruddin Choudhury, *pers. comm.* 2014). Zemithang Valley is c. 1.5 km long and 0.5 km wide, and at 2,000 msl, compared to 1,500 msl of Sangti Valley. The local Buddhists revere and do not harm this species, locally called *Thung-thung Karmo*. Since time immemorial, two to four birds visit this valley. Up to seven have been reported earlier.

This site is also important for biome-restricted species. For Biome 5 (Eurasian High Montane – Alpine and Tibetan), found above 3,600 m, BirdLife International (undated) has listed 48 species. Of these, some interesting species found in Zemithang-Nelya are the Himalayan Griffon *Gyps himalayensis*, Snow Partridge *Lerwa lerwa*, Ibisbill *Ibidorhyncha struthersii*, Snow Pigeon *Columba leuconota*, Grey-backed Shrike *Lanius tephronotus*, Blood Pheasant *Ithaginis cruentus*, and Satyr Tragopan *Tragopan satyra*.

The site is included in the Eastern Himalaya Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998). BirdLife International (undated) has listed 21 species from this EBA, and seven of these species have been identified in Zemithang-Nelya, but a thorough survey would reveal many more.

OTHER KEY FAUNA

High altitude mammals in this IBA include Alpine Musk Deer *Moschus chrysogaster*, Black Musk Deer *M. fuscus*, Bharal *Pseudois nayaur*, Takin *Budorcas taxicolor*, Himalayan Goral *Naemorhedus goral*, Himalayan Serow *Capricornis thar*, Snow Leopard *Panthera uncia*, Pale Weasel *Mustela altaica*, Beech Marten *Martes foina*, Red Fox *Vulpes vulpes*, Himalayan Marmot *Marmota himalayana*, and possibly Brown Bear *Ursus arctos* in the extreme northern part. Other notable mammals found are Asiatic



DHIRTIMAN MUKHERJEE

This large high altitude IBA ranges from 2,000 msl to more than 5,000 msl, covering a whole range of habitats from temperate coniferous and broadleaf forests to sub-alpine and alpine scrub



Zemithang Valley is the second site in Arunachal Pradesh where the Vulnerable Black-necked Crane winters

Crane has not been reported in recent years. However, as the army units change regularly and new soldiers are posted, they have to be educated not only about the crane but also about other wildlife. This is a great opportunity to organize environmental education training workshops regularly. Perhaps, Zemithang Valley where these cranes winter should be declared a Community Conservation Area, under the Indian Wildlife (Protection) Act.

The other conservation issues are more mundane and not site specific: timber operation for firewood, occasional grassland burning (land development for army), and forest clearing for horticulture by the local people.

Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Eurasian Otter *Lutra lutra*, Barking Deer *Muntiacus muntjak*, Assamese Macaque *Macaca assamensis*, Capped Langur *Trachypithecus pileatus*, and Bhutan Giant Flying Squirrel *Petaurista nobilis*. The Dhole *Cuon alpinus* is not uncommon and moves up to higher elevation, often attacking domestic yaks (Choudhury 2013). The Arunachal Macaque *Macaca munzala* (recognized by IUCN as Endangered), whose validity has been questioned by Biswas *et al.* (2011) and treated as a race of Assamese Macaque, also occurs.

LAND USE

- Agriculture
- Forestry
- Army deployment

THREATS AND CONSERVATION ISSUES

- Yak grazing
- Road construction
- Felling of trees

The most important conservation issue is the protection of the Black-necked Crane. The locals are all Buddhists, belonging to the Monpa tribe, and do not harm the birds. However, there have been two instances of shooting of Black-necked Cranes: in the late 1970s by a government officer, and then in the 1980s by the Circle Officer who was not a Monpa. The villagers were very upset with these incidents and still remember them with sorrow. Thanks to good publicity regarding its conservation value, poaching of Black-necked

KEY CONTRIBUTORS

Bharat Bhushan Bhatt, Anwaruddin Choudhury, Bablu Dey, G. Maheswaran.

KEY REFERENCES

- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- BirdLife International (undated) *Important Bird Areas (IBAs) in Asia: Project Briefing Book*. BirdLife International, Cambridge, UK. Unpubl.
- Biswas, J., Borah, D.K., Das, A., Das, J., Bhattacharjee, P.C., Mohnot, S.M., and Horwich, R.H. (2011) The enigmatic Arunachal macaque: its biogeography, biology and taxonomy in Northeastern India. *American Journal of Primatology* 73: 1–16.
- Choudhury, A.U. (2000) The Black-necked Crane in Arunachal Pradesh. *The Twilight* 2(2&3): 31–32.
- Choudhury, A.U. (2001) Survey of Birds in Sangti-Shergaon-Kalaktang areas of West Kameng district, Arunachal Pradesh. Report submitted to Bombay Natural History Society, Mumbai. Pp. 27.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for Nature in NE India (supported by COA, Taiwan), Guwahati, India. Pp. 432.
- Maheswaran, G. (2013) Bird records from Tawang district, Arunachal Pradesh, India. *JBNHS* 110(1): 35–49.
- Singh, P. (1999) *Bird Survey in Selected Localities of Arunachal Pradesh, India*. Wildlife Institute of India, Dehradun. Pp. 92.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

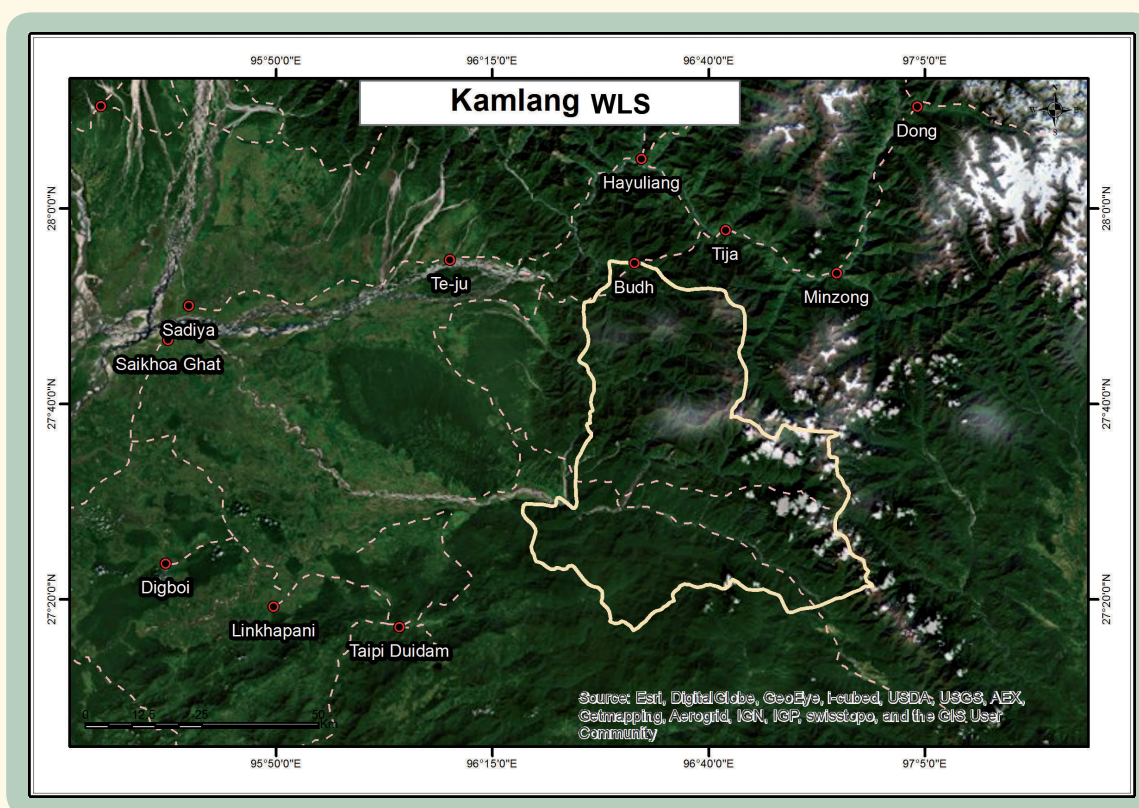
KAMLANG WILDLIFE SANCTUARY AND RESERVE FOREST

IN-AR-29

IBA Site Code	: IN-AR-29	Altitude	: 200–4,578 msl
Administrative Region (State)	: Arunachal Pradesh	Rainfall	: 2,500–3,500 mm
District	: Lohit	Temperature	: Subzero to 32 °C
Coordinates	: 27° 38' 30" N, 96° 37' 45" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Tropical Wet Evergreen Forest, Sub-tropical Broadleaf and Coniferous Forest, Montane Wet Temperate Forest, Sub-alpine Dry Scrub
Area	: 78,300 ha (Kamlang WLS), 103,200 ha (Kamlang RF)		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS : Wildlife Sanctuary, established 1989.



GENERAL DESCRIPTION

Kamlang Wildlife Sanctuary (78,300 ha) and Kamlang Reserve Forest (1,03,200 ha) are situated at the eastern tip of Arunachal Pradesh and bounded by the international boundary with Myanmar to the east. Namdapha National Park lies to the south. A part of Kamlang RF was declared as a Wildlife Sanctuary in 1989.

Kamlang WLS is drained by the tributaries of the Lohit river. The entire area is mountainous. The largest lake in Kamlang WLS is Glao. This 20 ha wetland is a major haunt of waterfowl (Choudhury 2002). The Dapha Bum (*Bum* = peak or ridge), the highest point in this

IBA, separates Namdapha from Kamlang. This IBA is a great continuous stretch of virgin forest and harbours perhaps the most diverse assemblage of species in India.

Due to great altitudinal variation, diverse habitats occur in the area, from Tropical Wet Evergreen in the lower areas to Sub-tropical and Temperate Forests in the higher mountains. In the Dapha Bum area, there is Sub-alpine and Alpine Scrub. The geography of the area is dominated by Dapha Bum, river valleys and deep gorges. The terrain is rugged, with hardly any flat area outside the narrow floodplains of the rivers.



DHRITIMAN MUKHERJEE

Due to its altitudinal variation from 800 msl to 4,500 msl, Kamlang has tropical wet evergreen, sub-tropical broadleaf, coniferous and montane wet temperate forest

There were some human populations within its boundaries, which shifted outside voluntarily. The main tribe around Kamlang is the Miju Mishmi.

The climate is tropical and sub-tropical, with a distinct cold season from December to February. Temperature varies from 5 °C to 35 °C at lower altitudes and drops to below freezing point at higher altitudes. July and August are the warmest months. Mean annual precipitation varies from 2,500 mm to 3,500 mm, 75% of which falls between April and October, during the southwest monsoon.

AVIFAUNA

Kamlang, along with Namdapha, is one of the most biologically diverse IBAs in India. Its avifauna is a unique blend of four biomes (Sino-Himalayan Temperate, Sino-Himalayan Sub-tropical, Indo-Chinese Tropical Moist Forests and Eurasian High Montane) (Katti *et al.* 1992). About 350 bird species were reported from Kamlang Wildlife Sanctuary (Choudhury 1996), which are now believed to be more than 450.

The Critically Endangered White-bellied Heron *Ardea insignis* has been reported from Lohit river, but so far no photographic evidence is available (A.U. Choudhury, *pers. comm.* 2014).



DIWAKAR THOMBRE

Banded Lineblue *Prosotas aluta coelestis*

CRITICALLY ENDANGERED

Slender-billed Vulture	<i>Gyps tenuirostris</i>
White-bellied Heron	<i>Ardea insignis</i>

ENDANGERED

White-winged Duck	<i>Asarcornis scutulata</i>
-------------------	-----------------------------

VULNERABLE

Greater Spotted Eagle	<i>Clanga clanga</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

NEAR THREATENED

Ward's Trogon	<i>Harpactes wardi</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>

E endemic BIRD AREA 130: EASTERN HIMALAYA

Blyth's Tragopan	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Blackish-breasted Babbler	<i>Sphenocichla humei</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Streak-throated Barwing	<i>Actinodura waldeni</i>
Ludlow's Fulvetta	<i>Alcippe ludlowi</i>
Grey Sibia	<i>Heterophasia gracilis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-warbler	<i>Tickellia hodgsoni</i>

The White-winged Duck *Asarcornis scutulata* has been reported from the lower reaches (A.U. Choudhury, *pers. comm.* 2014). Sighting of all species of hornbills including Rufous-necked Hornbill *Aceros nipalensis*, the Lesser Fish-eagle *Ichthyophaga nana*, and Chestnut-backed Laughingthrush *Garrulax nuchalis* are not infrequent (Choudhury 1996, 2006).

The Northeast is famous for its bird diversity and Namdapha-Kamlang area is one of the finest examples. In the adjacent Namdapha alone, thick forests contain 98 members of Family Muscicapidae (babblers, flycatchers, warblers, and thrushes). Indeed, almost half the birds seen in Namdapha belonged to this family. Mixed hunting parties containing several hundred birds of over 20 species have been reported (Athreya *et al.* 1997).

OTHER KEY FAUNA

Kamlang is famous for its mammalian species diversity. It harbours three large, two medium, and many smaller cats. Tiger *Panthera tigris* and Leopard *P. pardus* are found at lower and mid elevation, while above 3,000 m, the Snow Leopard *Panthera uncia* is reported from Dapha

Bum, but is yet to be confirmed. The rare Clouded Leopard *Neofelis nebulosa* occurs widely. The Golden Cat *Catopuma temminckii* and Marbled Cat *Pardofelis marmorata* have also been recorded. The sanctuary and adjacent forest areas are a stronghold of the Malayan Sun Bear *Helarctos malayanus*. The very rich primate life includes seven species, Slow Loris *Nycticebus bengalensis*, Stump-tailed Macaque *Macaca arctoides*, Pig-tailed Macaque *M. nemestrina leonina*, Assamese Macaque *M. assamensis*, Rhesus Macaque *M. mulatta*, Capped Langur *Trachypithecus pileatus*, and Hoolock Gibbon *Hoolock hoolock*. Among ungulates, noteworthy are Leaf Muntjac *Muntiacus putaoensis* and Takin *Budorcas taxicolor*.

LAND USE

- Forestry
- Nature conservation

THREATS AND CONSERVATION ISSUES

- Poaching
- Encroachment
- Felling of trees
- *Jhum* cultivation
- Proposed Hydel project at Demwe on Lohit river

This large IBA is quite remote, largely inaccessible and uninhabited. Most of the forest is largely untouched. The abundance of forest resources around the area fulfils the needs of the people. However, the large hydro-electric project that is coming up at Demwe on the Lohit river is likely to have some adverse impact on this magnificent wilderness.

KEY CONTRIBUTORS

Anwaruddin Choudhury.

KEY REFERENCES

- Athreya, R.M., Captain, A.S., and Athreya, V.R. (1997) A Faunal Survey of Namdapha Tiger Reserve, Arunachal Pradesh, India. Notes on some of the more interesting species. Unpublished Report submitted to the Arunachal Pradesh Forest Department.
- Choudhury, A.U. (1996): Trekking through Kamlang. *Sanctuary Asia* 16(5): 44–49.
- Choudhury, A.U. (2002) Major Inland Wetlands of Northeastern India (excluding Assam). Report submitted to SACON, Coimbatore. Pp. 45. Unpubl.
- Choudhury, A.U. (2006): *A Pocket Guide to the Birds of Arunachal Pradesh*. Gibbon Books & The Rhino Foundation for nature in NE India, Guwahati, India. 109 pp.
- Katti, M., Singh, P., Manjrekar, N., Sharma, D., and Mukherjee, S. (1992) An ornithological survey in Eastern Arunachal Pradesh, India. *Forktail* 7: 75–89.

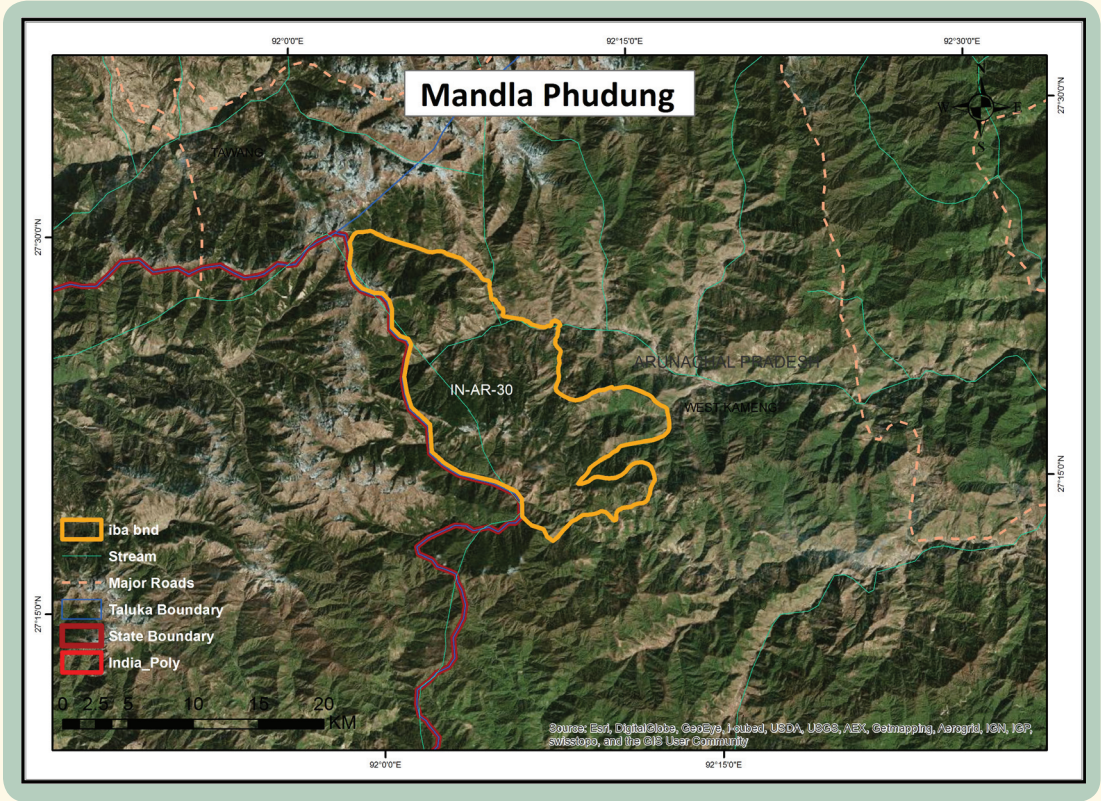
MANDLA PHUDUNG

IN-AR-30

IBA Site code	: IN-AR-30	Rainfall	: 1,500 – 2,000 mm
Administrative Region (State)	: Arunachal Pradesh	Temperature	: 0 °C to 30 °C
District	: West Kameng	Biogeographic Zone	: Himalaya
Coordinates	: 27° 23' 60" N, 92° 17' 60" E	Habitats	: Sub-tropical Pine Forest, Sub-tropical Broadleaf Hill Forest, Temperate Broadleaf and Coniferous Forests, Sub-alpine Scrub.
Ownership	: Community, State		
Area	: c. 50,000 ha		
Altitude	: 1,600–4,500 msl		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

Mandla Phudung was earlier part of Shergaon-Mandla Phudung-Kalaktang IBA. It is among the least explored tracts in Arunachal Pradesh. Mandla Phudung is in West Kameng district, but touches the border of Tawang district. It is not protected and not even a reserve forest, hence there is no well-defined boundary. This IBA mainly consists of mountainous country. The lowest parts are c. 1,600 msl (near Dirang), while the highest parts are more than 4,000 msl (in Mandla, especially Naga Grazing Ground and beyond). This IBA covers part of the Middle Himalaya and some parts of the Great Himalaya.

There are a number of small to medium-sized natural lakes in the higher reaches of Mandla Phudung, ranging from tiny pools to waterspreads of more than 50 ha. These lakes are located at elevations above 3,000 msl.

Annual rainfall varies from <1,500 mm on the northern slopes (partly rain-shadow zone) to >2,000 mm on the southern slopes which receive heavy rainfall. The temperature generally ranges from below freezing point in winter (minimum) to 30 °C in summer (maximum). Heavy snowfall is experienced in winter in the higher reaches (especially above 2,200 m, occasionally down to 1,800 m).

The vegetation of this IBA includes Sub-tropical Broadleaf and Coniferous Forests in the lower areas near Dirang. Temperate Forest is widespread, with both broadleaf as well as coniferous species. Broadleaf Forest occurs generally between 1,800 and 2,800 m, while the coniferous forest is present between 2,800 and 3,500 m. Various species of Oak, Magnolia, and Rhododendron dominate the broadleaf forests.

AVIFAUNA

A bird survey of this little known wilderness was carried out in April end, May, and October, 2000 as part of the BNHS IBA project (Choudhury 2001). Prior to that, these areas were also visited in 1997, 1998, and 1999. This is the first ever detailed survey of the area. Some information on the birds of this region is also found in Singh (1994). More than 300 species of birds have so far been recorded in the area.

Choudhury (2001) has noted six species of pheasants, including the Vulnerable Blyth's Tragopan *Tragopan blythii*, and the Near Threatened Satyr Tragopan *Tragopan satyra*. Blyth's Tragopan was reported from the southern slopes. Satyr Tragopan was uncommon, but present all over the high elevation areas of Temperate Broadleaf and Coniferous Forests, especially above 2,000 m. It was the most abundant among the three tragopan species seen in this area.

The Blood Pheasant *Ithaginis cruentus* is not uncommon, and regularly snared by poachers above 3,000 m (Choudhury 2001). Temminck's Tragopan *Tragopan temminckii* was earlier recorded up to Subansiri area of this state (its westernmost limit, c. 93° 10' E). Its presence in Mandla Phudung area at an elevation of 3,000 m extends its westernmost location in India (27° 18' N, 92° 06' E). This was the first record of Temminck's Tragopan *Tragopan temminckii* from the western part of the state (Choudhury 2005).

Ward's Trogon *Harpactes wardi* is another Near Threatened species reported from this IBA. The Rufous-necked Hornbill *Aceros nipalensis*, a Vulnerable species, occurs on the southern slopes of this IBA, but in small numbers. Above 1,500 m, it is the main hornbill species in Subtropical Broadleaf Forests with mature trees, but it also occurs in Temperate Broadleaf Forest.

Hoary-throated Barwing *Actinodura nipalensis* and Austen's or Streak-throated Barwing *Actinodura waldeni* are considered to be restricted-range species of the Eastern Himalaya Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998). Both species were seen by Choudhury (2001) in this IBA. Similarly, White-naped Yuhina *Yuhina bakeri*, another restricted-range species, was also recorded. Beautiful Sibia *Heterophasia pulchella*, also a restricted-

VULNERABLE	
Blyth's Tragopan	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
NEAR THREATENED	
Ward's Trogon	<i>Harpactes wardi</i>
Rufous-throated Wren-babbler	<i>Spelaeornis caudatus</i>
ENDEMIC BIRD AREAS 130: EASTERN HIMALAYA	
Blyth's Tragopan (?)	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rufous-throated Wren-babbler	<i>Spelaeornis caudatus</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Yellow-vented Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-warbler	<i>Tickellia hodgsoni</i>

range species of this EBA, is a common resident with some seasonal altitudinal movement. It is found in Temperate Coniferous and Broadleaf Forest.

In the lakes of Mandla Phudung, the Ruddy Shelduck *Tadorna ferruginea* breeds in summer. Recently, some birdwatching groups have been making short trips to a small part of this IBA (Newnham 2014). They recorded Rufous-chinned Laughingthrush *Ianthocincla rufogularis*, Slender-billed Scimitar-babbler *Xiphirhynchus superciliosus*, Bar-winged Wren-babbler *Spelaeornis troglodytoides*, and Black-tailed Crake *Porzana bicolor* (in lower northern areas).

OTHER KEY FAUNA

Tiger *Panthera tigris* has vanished due to poisoning in retaliation for yak depredation. The felines reported in the area include the Leopard *P. pardus*, Clouded Leopard *Neofelis nebulosa*, and Leopard Cat *Prionailurus bengalensis*. Other major carnivores recorded in the area are the Dhole or Wild Dog *Cuon alpinus* and Asiatic Black Bear *Ursus thibetanus*. The latter is persecuted for its bile and gall bladder. Red Panda *Ailurus fulgens* occurs all over, above 2,000 m. Among primates, the Assamese Macaque *Macaca assamensis* and Capped Langur *Trachypithecus pileatus* are common. The local tribes, mostly Monpas, are Buddhist and do not kill primates for food. However, a few Assamese Macaque are occasionally killed to reduce depredation in maize fields. Takin *Budorcas taxicolor*, Himalayan Serow *Capricornis thar*, Himalayan Goral *Naemorhedus goral*, and Barking Deer *Muntiacus muntjak* are not uncommon. Both Goral and Barking Deer are frequently shot by local hunters. Sambar *Rusa unicolor* is rare and mostly found on the southern slopes. Alpine Musk Deer *Moschus chrysogaster* and Black Musk deer *M. fuscus* are occasionally met with in the high elevation areas (Choudhury 2013).

LAND USE

- Agriculture
- Forestry
- Grazing

THREATS AND CONSERVATION ISSUES

- Loss of habitat
- Poaching
- Construction of roads
- Yak grazing

Illegal felling of trees on the slopes is still a problem, despite the ban on tree felling by the Supreme Court. Accidental and deliberate forest fires also occasionally damage habitat, especially in the dry winter conditions in the higher areas with temperate conifers. For instance, in early 1999, large tracts were burnt for this reason in winter.

The massive road construction and extension which are going on (observed in November, 2014 by Anwaruddin Choudhury, Heerak Nandy, and Ayan Banerjee) has short-term as well as long-term impacts. The short-term impact is from the labourers brought in by the General Road Engineers Force (GREF), who camp at different locations during road construction/repair. They cut natural vegetation for fuel for cooking and heating. Many labourers who come from the plains do not have a benign attitude towards wildlife, unlike the locals. As the road construction progresses, wildlife becomes scarce all along the way, indicating heavy poaching pressure.

The long-term impact is that these roads open up areas for vehicular traffic and settlements. Poachers take advantage of the increased accessibility, and sometimes induce local people to become part of a commercial poaching mafia. The main targets of widespread poaching are pheasants and ungulates. Pheasants are regularly snared by GREF

labourers. Some hunters have trained dogs to flush out pheasants and mammals.

It is proposed that this IBA should be declared as a Community Conservation Area (CCA) under the modified Indian Wildlife (Protection) Act, 1972. The entire mountain ridge near Mandla Phudung, along with the lakes above 3,000 m, should be declared as a CCA.

GREF should ensure that their labourers do not indulge in poaching and large-scale removal of natural vegetation. Their dependence on wood could be minimized by supplying them with gas for cooking and coal for heating.

KEY CONTRIBUTORS

Anwaruddin Choudhury, Heerak Nandy, Hakim Choudhury, Bir Bahadur Gurung.

KEY REFERENCES

- BirdLife International (2001) *Threatened Birds of Asia: The BirdLife International Red Data Book*. BirdLife International, Cambridge, UK.
- Choudhury, A.U. (2001) Birds in Sangti-Shergaon-Kalaktang areas of West Kameng district, Arunachal Pradesh. Pp. 27. Unpubl.
- Choudhury, A.U. (2005) Distribution, status and conservation of galliformes in north-east India. Pp. 38–56. In: Fuller, R.A. and Browne, S.J. (Eds) (2005) *Galliformes 2004. Proceedings of the 3rd International Galliformes Symposium*. World Pheasant Association, Fordingbridge, UK.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for nature in NE India (supported by COA, Taiwan), Guwahati, India, 432 pp.
- Newnham, W. (2014) Surfbirds Birding Trip Report: North Eastern India 11th–28th April 2014. Unpublished report.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long A. J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife International, Cambridge, UK. Pp. 846.

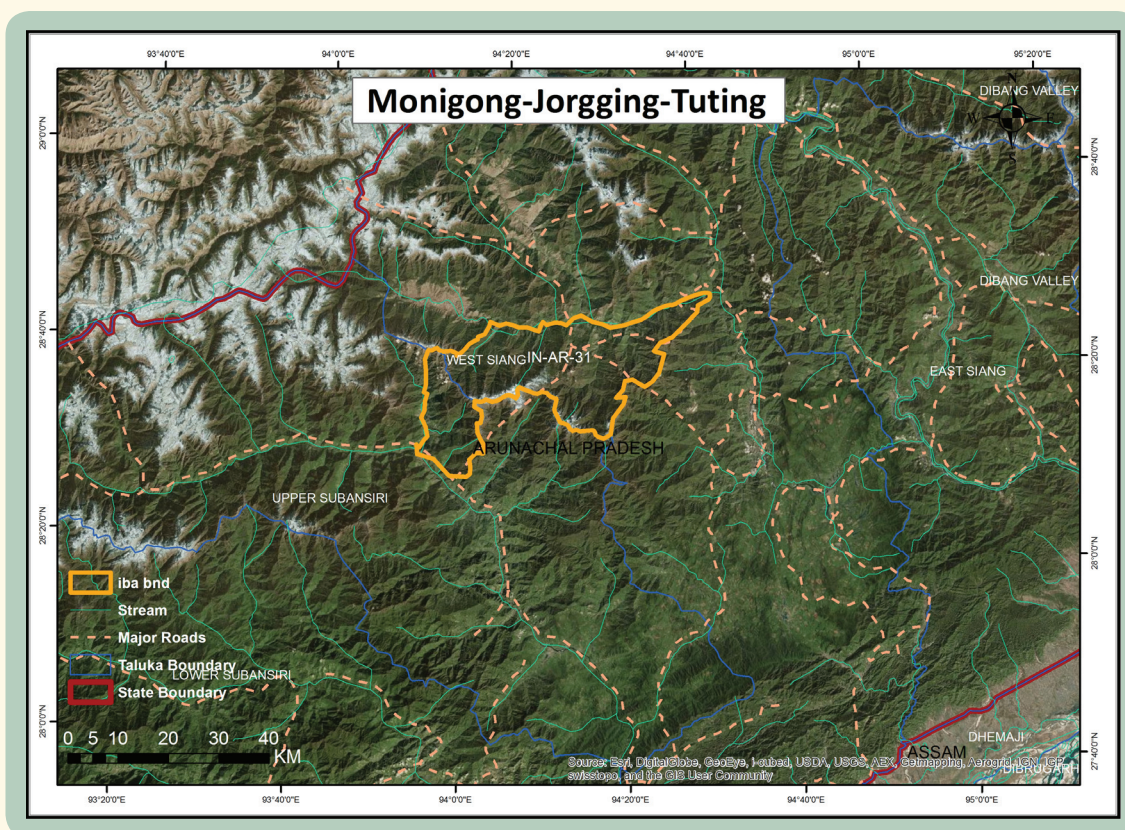
MONIGONG-JORGGING-TUTING

IN-AR-31

IBA Site code	: IN-AR-31	Rainfall	: >2,000 mm
Administrative Region (State)	: Arunachal Pradesh	Temperature	: Subzero to 25 °C
District	: West and Upper Siang	Biogeographic Zone	: Himalaya
Coordinates	: 28° 30' 00" N, 94° 30' 00" E	Habitats	: Tropical Evergreen, Sub-tropical Broadleaf and Coniferous Forests, Temperate Broadleaf and Coniferous Forests, Sub-alpine Forest, Alpine Pasture
Ownership	: Community		
Area	: c. 210,000 ha		
Altitude	: 1,300–5,000 m		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

This relatively unexplored, large IBA covers the forests and snow-clad peaks of the Great Himalaya in northern Arunachal Pradesh. It is also the easternmost limit of the Great Himalaya in India, and adjoins Namcha Barwa peak of Tibet. The site covers Monigong, Tuting, and Jorgging forests, extending to the Siang river near Tuting and Gelling near its 'great bend' where the river enters India.

This IBA is a source of many tributaries of the Siang river, including the Siyom. It is entirely mountainous with a small valley at Tuting township, which is excluded from the IBA,

as it is inhabited, but the surrounding forest of the same name is included. The vegetation type ranges from Tropical Evergreen along the Siang gorge, Sub-tropical Broadleaf and Pine forest on the lower slopes and river gorges, to Sub-alpine forest in the higher reaches. The tops and ridges of the Great Himalaya are covered with subalpine and alpine scrub, while the peaks are barren, and snow-capped for the greater part of the year (Choudhury 2003a).

A large part of this IBA is inaccessible, thus ensuring the existence of pristine wilderness to a great extent. This IBA has a long border with Tibet. Very few surveys were done

in the area. Tuting was also visited by Dr. Sálím Ali (Gee 1964). Singh (1994) mentioned the Migging-Pango-Tuting track, while there was a tragopan survey in Monigong (Dipankar Ghose, *pers. comm.* 2002). Being part of Dihang-Dibang Biosphere Reserve, it was covered during a mammal and bird survey of the reserve (Choudhury 2008). A rapid survey was also carried out in Monigong in February 2013 (Anwaruddin Choudhury, *pers. comm.* 2014).

AVIFAUNA

At least 160 bird species have been listed, but it is apparent that there may be more than 250. This large IBA with inhospitable terrain needs many surveys for a full assessment of its rich birdlife. So far, the presence of five Vulnerable species has been confirmed. Blyth's Tragopan *Tragopan blythii* and Sclater's Monal *Lophophorus sclateri* occur widely, but Rufous-necked Hornbill *Aceros nipalensis* has been recorded only below Tuting. Beautiful Nuthatch *Sitta formosa* was reported, while an Eastern Imperial Eagle *Aquila heliaca* was spotted between Tuting and Gelling. The Red-breasted Partridge *Arborophila mandellii* was reported but needs confirmation (Anwaruddin Choudhury, *pers. comm.* 2003).

Although only four restricted-range species were recorded during brief surveys, more species are likely to occur. Among the noteworthy species recorded were Temminck's Tragopan *Tragopan temminckii* near Monigong, Golden Eagle *Aquila chrysaetos* between Tuting and Gelling, and a species new to India, the Blue-and-White Flycatcher *Cyanoptila cyanomelana* between Tuting and Gelling in Upper Siang district, not far from The India-Tibet border (Choudhury 2006).

The site lies in the Eastern Himalaya Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998). Out of the 21 species listed in EBA 130, two have been seen in this IBA, but more species may be found.

Due to the altitudinal variation from 1,300 to 5,000 m, three biomes are found in this IBA: Biome 5: Eurasian High Montane; Biome 7: Sino-Himalayan Temperate Forest; and Biome 8: Sino-Himalayan Subtropical Forest.

OTHER KEY FAUNA

Among the major mammals are Snow Leopard *Panthera uncia*, Tiger *P. tigris*, Leopard *P. pardus*, Clouded Leopard *Neofelis nebulosa*, Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Musk Deer *Moschus chrysogaster*, Takin *Budorcas taxicolor*, and Bharal or Blue Sheep *Pseudois nayaur* (Choudhury 2003b).

LAND USE

- Forestry
- Agriculture

VULNERABLE

Eastern Imperial Eagle	<i>Aquila heliaca</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

ENDEMIC BIRD AREA 130: EASTERN HIMALAYA

Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Streak-throated Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>

THREATS AND CONSERVATION ISSUES

- Proposed mega hydroelectric projects
- Poaching
- Collection of firewood
- Felling of trees

The major issue now is the massive hydroelectric projects proposed on the River Siang and its main tributary, the Siyom in the neighbourhood of this IBA. Poaching, including trapping of galliforms, is a big problem. Collection of firewood for domestic use and felling of trees are other major issues. Felling of trees for fuel wood and room heating in winter has virtually reduced the immediate surroundings of Monigong to a barren landscape with short grasses and scrub (Anwaruddin Choudhury, *pers. comm.* 2014).

KEY CONTRIBUTOR

Anwaruddin Choudhury

KEY REFERENCES

- Choudhury, A.U. (2003a) Survey of birds in Mechuka-Monigong areas of West Siang district, Arunachal Pradesh. Submitted to the Bombay Natural History Society, Mumbai.
- Choudhury, A.U. (2003b) *The Mammals of Arunachal Pradesh*. Regency Publications, New Delhi.
- Choudhury, A.U. (2006) *A Pocket Guide to the Birds of Arunachal Pradesh*. Gibbon Books & The Rhino Foundation for Nature in North East India, Guwahati, India. 109 pp. [Partly supported by Oriental Bird Club, UK].
- Choudhury, A.U. (2008) Survey of mammals and birds in Dihang-Dibang Biosphere Reserve, Arunachal Pradesh. Final report to Ministry of Environment & Forests, Government of India. The Rhino Foundation for nature in NE India, Guwahati, India. 70 pp.
- Gee, E.P. (1964) *The Wild Life of India*. Collins, London.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.

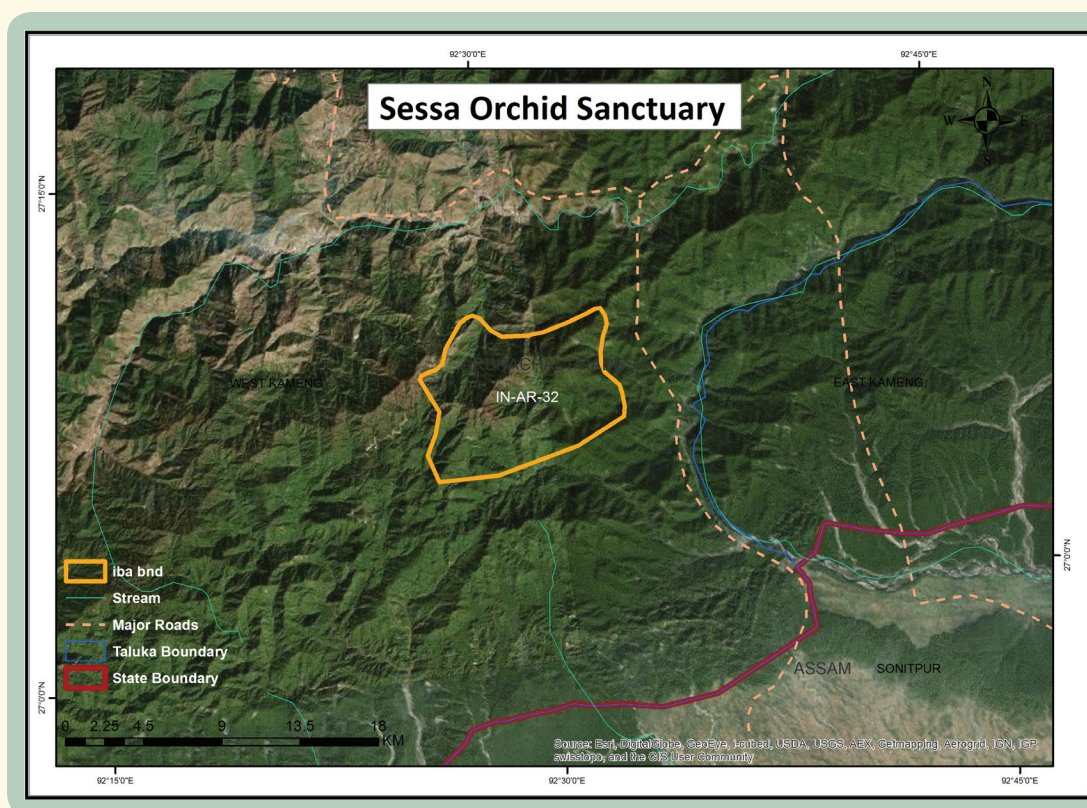
SESSA ORCHID SANCTUARY

IN-AR-32

IBA Site Code	: IN-AR-32	Altitude	: 200–2,800 msl
Administrative Region	: Arunachal Pradesh	Rainfall	: 2,000 mm to >3,000 mm
District	: West Kameng	Temperature	: -2 °C to 30 °C
Coordinates	: 27° 08' 60" N, 92° 21' 47" E	Biogeographic Zone	: Himalaya
Ownership	: State	Habitats	: Tropical Wet Evergreen, Sub-tropical Broadleaf and Coniferous forest, Montane Wet Temperate Forest
Area	: 10,000 ha		

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya;
Endemic Bird Area 131: Assam Plains)

PROTECTION STATUS: Sanctuary, established October, 1989.



GENERAL DESCRIPTION

Sessa Orchid Sanctuary (SOS) is located in West Kameng district, Arunachal Pradesh. Along with the adjacent Eaglenest (217 sq. km), Sessa (100 sq. km) was notified as a protected area in 1989. The Kameng river and its tributaries (Tipi and Sessa) drain the area. The annual rainfall varies from 2,000 mm to >3,000 mm. Snowfall is experienced in winter in the higher areas. There are diverse habitats because of the great altitudinal range. Tropical Wet Evergreen and Semi-evergreen Forest occur in the southern parts of the sanctuary, especially in the river valleys and gorges, mainly below 900 m.

The forest canopy includes tree species such as *Tetrameles nudiflora* (important for nesting of hornbills), *Terminalia myriocarpa*, *Amoora wallichii*, and *Duabanga sonneratioides*. The middle layer includes *Eugenia jambolana*, *Premna benghalensis*, *Albizia procera*, and *Macaranga denticulata*. Broadleaf Sub-tropical Forest dominated by various oak species occurs at 800–1,900 m. Coniferous Sub-tropical Forest dominated by *Pinus roxburghii*, *P. wallichiana*, and *P. kesiya* occurs at 1,000–1,800 m, especially in areas receiving less rainfall. Broadleaf Temperate Forest dominated by oaks, magnolias, and rhododendrons, occurs at 1,800–2,800 m. Coniferous Temperate Forest

dominated by *Abies spectabilis*, *A. delavayi* and *Taxus baccata* is found at 2,800 m. Abandoned *jhums* (areas of slash-and-burn cultivation) are covered with grasses such as *Themeda villosa*, *Saccharum procerum*, and *Imperata cylindrica*, and various shrubs. There are also large clumps of bamboo, especially *Arundinaria* sp. (at 1,800–2,750 m), and *Dendrocalamus hamiltonii*, *Semiarundinaria pantlingi* (at 2,700–2,900 m near Eaglenest pass).

AVIFAUNA

The total bird species recorded in the two adjacent protected areas (Eaglenest and Sessa) is now more than 500 species (Athreya 2006a).

Blyth's Tragopan *Tragopan blythii* occurs in higher areas but not frequently, as the species faces hunters regularly. One skin of this bird was examined by Choudhury (2003) which could be subspecies *molesworthi*, known from Bhutan, adjacent to Tibet and Arunachal Pradesh, as the specimen was darker (Choudhury 2003). The Vulnerable Rufous-necked Hornbill *Aceros nipalensis* is also found in this IBA but in low numbers as hunting is prevalent in the area (Choudhury 2003). The Beautiful Nuthatch *Sitta formosa* is also reported from this IBA (Choudhury 2003).

Restricted-range species such as Hoary-throated Barwing *Actinodura nipalensis*, Beautiful Sibia *Heterophasia pulchella*, and White-naped Yuhina *Yuhina bakeri* have also

CRITICALLY ENDANGERED	
Bugun Liocichla	<i>Liocichla bugunorum</i>
VULNERABLE	
Blyth's Tragopan	<i>Tragopan blythii</i>
Marsh Babbler	<i>Pellorneum palustre</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
NEAR THREATENED	
Satyr Tragopan	<i>Tragopan satyra</i>
Ward's Trogon	<i>Harpactes wardi</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
ENDEMIC BIRD AREA 130: EASTERN HIMALAYA	
Blyth's Tragopan	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Streak-throated Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Broad-billed Warbler	<i>Tickellia hodgsoni</i>
ENDEMIC BIRD AREA 131: ASSAM PLAINS	
Marsh Babbler	<i>Pellorneum palustre</i>

been reported from this IBA (Ahmed *et al.* 2002, Choudhury 2003).

Among the Near Threatened species, Great Pied Hornbill *Buceros bicornis* and Ward's Trogon *Harpactes wardi* have been reported (Choudhury 2003). Other important species



One of the finest Tropical Wet Evergreen forest is found in Sessa Orchid Sanctuary

DHIRTIMAN MUKHERJEE

include the Lesser Rufous-headed Parrotbill *Paradoxornis atrosuperciliaris* and the Greater Rufous-headed Parrotbill *P. ruficeps*.

Some other interesting birds found in this IBA are Rufous-bellied Eagle *Hieraetus kienerii* and Temminck's Tragopan *Tragopan temmincki*.

A species new to science, Bugun Liocichla *Liocichla bugunorum* was described from the adjoining Eaglenest Wildlife Sanctuary (Athreya 2006b). As the forest is continuous, it is likely to be present in Sessa Orchid Sanctuary. Therefore, we are including it in this IBA.

OTHER KEY FAUNA

Sessa Orchid Sanctuary has Asiatic Elephants *Elephas maximus* in the lower areas, but seasonally a large number ascend to the higher areas including Eaglesnest pass (beyond which lies the Eaglesnest Wildlife Sanctuary) on a regular basis (Choudhury 2009). The highest elevation recorded for Gaur *Bos gaurus* in its entire range was also from the boundary of this IBA and Eaglesnest Sanctuary (Choudhury 2002). Other notable mammals are Capped Langur *Trachypitecus pileatus*, Red Panda *Ailurus fulgens*, Marbled Cat *Pardofelis marmorata*, Golden Cat *Catopuma temmickii*, and Clouded Leopard *Neofelis nebulosa*. The Tiger *Panthera tigris* has become very rare in recent years. A new taxon of macaque was discovered just outside this IBA in 1997 (Choudhury 1998), which was later on described as a new species, the Arunachal Macaque *Macaca munzala* (Sinha *et al.* 2005) and variously treated as an invalid species (Biswas *et al.* 2011) and a subspecies of *Macaca assamensis* (Choudhury 2013).

LAND USE

- Nature reserve
- Orchid research and conservation
- Tourism and recreation

THREATS AND CONSERVATION ISSUES

- Illegal felling of trees
- *Jhum* cultivation
- Hunting
- Development activities, e.g. dam project

Though large-scale tree felling is not seen in these protected areas, occasional illegal felling, especially along the Doimara Nullah (valley) does occur. In the reserve forests and unclassified areas, felling has stopped since 1996-1997. Slash-and-burn shifting cultivation (*jhum*) has also destroyed some fine natural forest outside SOS (southeast of Tenga Valley). Accidental and deliberate forest fires have

ravaged large parts of SOS, especially in the higher areas with temperate conifers.

Poaching is still a major conservation problem, except in the interior inaccessible areas. Some hunters use trained dogs to chase mammals such as Goral *Naemorhedus goral* and galliform birds. Except for larger birds such as hornbills, hunting with guns is still not very significant. However, tragopans, hill-partridges, and kaleej pheasants are regularly snared along the Tenga-Doimara road and the Bomdila-Bhalukpong road.

Protection measures need to be considerably strengthened. An increased presence of wildlife staff is necessary. The wildlife staff should be provided with better infrastructural facilities such as jeeps, motorcycles, and modern firearms. Poaching, including snaring by labourers, should be stopped through strict law enforcement.

KEY CONTRIBUTOR

Anwaruddin Choudhury

KEY REFERENCES

- Ahmed, M.F., Talukdar, B.K., and Dey, A. (2002) Birding in Sessa Orchid Sanctuary, Arunachal Pradesh, India. *OBC Bulletin* 35: 7.
- Athreya, R. (2006a) Eaglenest Biodiversity Project (2003 – 2006): Conservation Resources Eaglenest Wildlife Sanctuary. Report submitted to the Rufford-Maurice-Liang Foundation (U.K.). Kaati Trust, Pune. 189 pp.
- Athreya, R. (2006b). A new species of Liocichla (Aves: Timaliidae) from Eaglenest Wildlife Sanctuary, Arunachal Pradesh, India. *Indian Birds* 2(4): 82–94.
- Biswas, J., Borah, D.K., Das, A., Das, J., Bhattacharjee, P.C., Mohnot, S.M., and Horwich, R.H. (2011). The enigmatic Arunachal macaque: its biogeography, biology and taxonomy in Northeastern India. *American Journal of Primatology* 73: 1–16.
- Choudhury, A.U. (1998). Père David's macaque discovered in India. *The Rhino Foundation for nature in NE India Newsletter* 2(1): 7.
- Choudhury, A.U. (2002) Distribution and conservation of the Gaur *Bos gaurus* in the Indian Subcontinent. *Mammal Review* 32(3): 199–226.
- Choudhury, A.U. (2003) Birds of Eaglenest wildlife sanctuary and Sessa orchid sanctuary, Arunachal Pradesh, India. *Forktail* 19: 1–14.
- Choudhury, A.U. (2009) Highest elevations reached by Asian elephants *Elephas maximus* Linn. – a review. *JBNHS* 106(1): 92–94.
- Choudhury, A.U. (2013) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for nature in NE India (supported by COA, Taiwan), Guwahati, India, 432 pp.
- Sinha, A., Dutta, A., Madhusudan, M.D., and Mishra, C. (2005) *Macaca munzala*. A new species from Western Arunachal Pradesh, northeastern India. *International Journal of Primatology*. 26(4): 977–989.

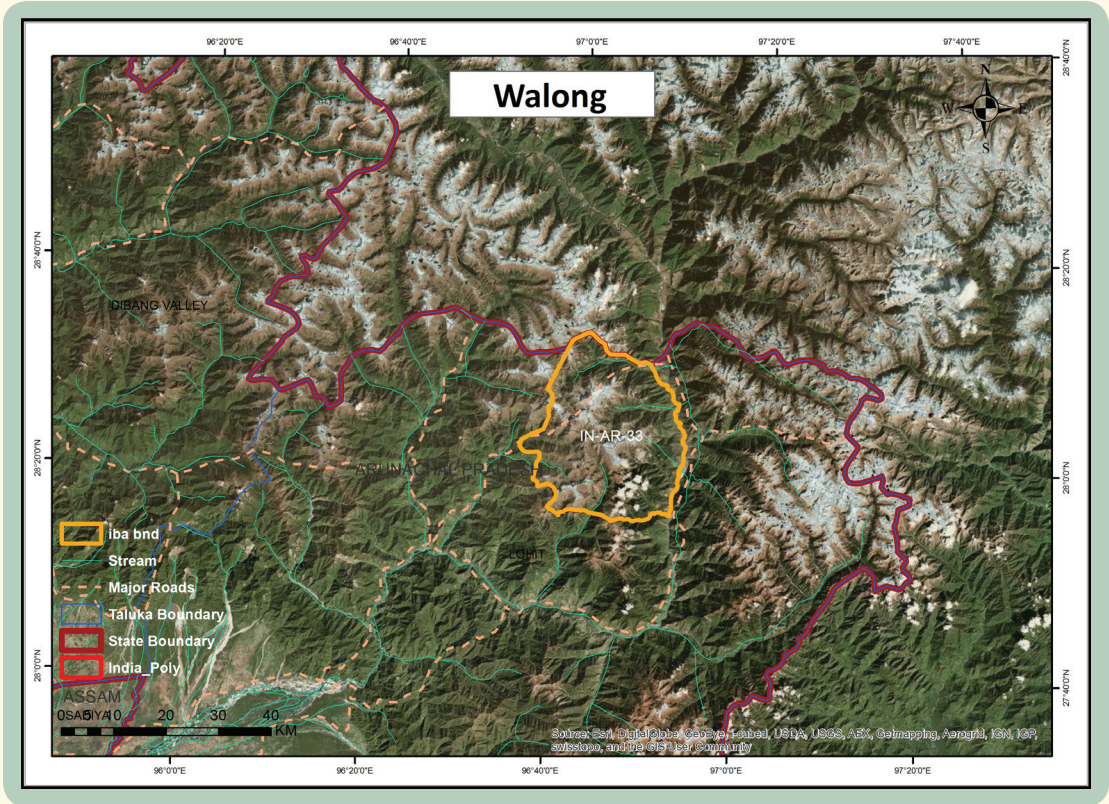
WALONG

IN-AR-33

IBA Site Code	: IN-AR-33	Area	: 100,000 ha
Administrative Region (State)	: Arunachal Pradesh	Altitude	: >1,000–5,000 msl
District	: Anjaw	Rainfall	: >1,500 mm
Coordinates	: 27° 50' 00" N, 96° 50' 00" E (We have to give coordinate of Walong)	Temperature	: Subzero to 25 °C
Ownership	: Private, Government	Biogeographic Zone	: Himalaya
		Habitats	: Montane Wet Temperate Forest, Sub-alpine Dry Scrub, Alpine Dry Pasture

IBA CRITERIA : A1 (Threatened species), A2 (Endemic Bird Area 130: Eastern Himalaya)

PROTECTION STATUS: Not officially protected.



GENERAL DESCRIPTION

This IBA was part of Chaglagaum-Denning-Walong, which is a large wilderness in Mishmi Hills spreading over the Lohit and Anjaw districts of Arunachal Pradesh, along the border with Tibet. The River Lohit forms the eastern boundary of this IBA. Just east of the Lohit river is Dichu IBA. Hence, it is among the outstanding wildernesses in the country.

The northern mountain ranges along the India-Tibet border remain snow-covered for the greater part of the year. The eastern fringe of this IBA has Walong and Kibithu villages besides several smaller hamlets, all inhabited by the

Meyor tribe (a Tibetan tribe). The entire IBA is inaccessible except the eastern fringe which has a road going up to Kibithu, near the India-Tibet border (A.U. Choudhury, *pers. comm.*).

The Lohit is the main river that flows through this IBA. The vegetation is Sub-tropical Broadleaf and Coniferous up to middle elevation, above which occurs Temperate Forest with Broadleaf species, Pine and other mixed conifers, especially in the north. Further up occurs Alpine and Sub-alpine Scrub. Merkus's or Sumatran Pine *Pinus merkusii* occurs only in this area (including Dichu IBA).

AVIFAUNA

A total of 259 bird species are reported from the general area of Chaglagaum-Walong, of which 159 are biome-restricted species (Hazarika 2003). This site falls in the Eastern Himalaya Endemic Bird Area (Stattersfield *et al.* 1998) and covers three biomes due to altitudinal variation. Biome 5 (Eurasian High Montane – Tibetan and Alpine) includes 48 biome-restricted species, of which 13 have been found in Walong. Out of 112 Biome 7 (Sino-Himalayan Temperate Forest) species recorded, 70 occur in Walong, which proves that good Sino-Himalayan Temperate Forest is still surviving in this IBA. Similarly, the site has extensive tracts of Biome 8 (Sino-Himalayan Sub-tropical Forest). BirdLife International (undated) has identified 95 species in this biome, out of which 64 species were recorded by Hazarika (2003) in this IBA and the adjacent Chaglagaum area.

Some other noteworthy avifaunal records are Black-headed Greenfinch *Carduelis ambigua*, Lord Derby's Parakeet *Psittacula derbiana*, Godlewski's Bunting *Emberiza godlewskii*, and Yunnan Nuthatch *Sitta yunnanensis*.

Black-headed Greenfinch was observed between Walong and Kibithu in Anjaw district in 2008 by Choudhury (2013b). Singh (2013) sighted a flock (26+) of Black-headed Greenfinch perched on wires at Walong PWD rest house in 2012. Lord Derby's Parakeets were suspected to be seen in Kibithu in 2008 (Choudhury 2013b). Singh (2013) also

VULNERABLE	
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
NEAR THREATENED	
Lord Derby's Parakeet	<i>Psittacula derbiana</i>
Yunnan Nuthatch	<i>Sitta yunnanensis</i>
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
ENDEMIC BIRD AREA 130: EASTERN HIMALAYA	
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Snowy-throated Babbler	<i>Stachyris oglei</i>

recorded this species from Walong in 2012. Later, he also sighted a couple of birds at Tilam on the Walong–Kibithu route. Godlewski's Buntings were observed between Walong and Kibithu in 2008 by Choudhury (2013b). Later Sharma *et al.* (2014) sighted a bunting perched on an electric cable along the road from Walong to Kibithu. Yunnan Nuthatch *Sitta yunnanensis* was recorded for the first time by Bonopo & Kuriakose (2014) at Helmet Top, 19 km from Walong.

OTHER KEY FAUNA

Due to its inaccessibility, the forest is well preserved and is a true representation of climax vegetation. This IBA is the abode of temperate species such as Red Panda *Ailurus*



Fivebar Swordtail *Graphium antiphates*

fulgens, Asiatic Black Bear *Ursus thibetanus*, and Takin *Budorcas taxicolor*. Other important species recorded are Barking Deer *Muntiacus muntjak* and Leopard *Panthera pardus*. Snow Leopard *Panthera uncia* is reported above 3,000 m (Haridasan *et al.* 1999). However, it is not confirmed. Other noteworthy mammals include Assamese Macaque *Macaca assamensis*, Capped Langur *Trachypithecus pileatus*, Marbled Cat *Pardofelis marmorata*, Leopard Cat *Prionailurus bengalensis*, Asian Golden Cat *Catopuma temminckii*, Sambar *Rusa unicolor*, Gongshan Muntjac *Muntiacus gongshanensis*, Barking Deer *M. muntjak*, Leaf Deer *M. putaoensis*, possible Chinese Serow *Capricornis milneedwardsii*, Chinese Goral *Naemorhedus griseus*, and Red Goral *N. baileyi* (Choudhury 2013a). A new Giant Flying Squirrel *Petaurista mishmiensis* is also known from this IBA (Choudhury 2009).

LAND USE

- Forestry
- Agriculture

THREATS AND CONSERVATION ISSUES

- Tree cutting for firewood
- Road construction
- Clearing areas for settlements and farming
- Poaching

Hunting by local Mishmi and Meyor, a Tibetan tribes in this IBA is a serious threat to the birdlife. Hunting occurs mostly with single barrel shotguns and muzzle-loaders. Organized hunting occurs during winter when parties of hunters move over different parts of the forest in search of larger birds and mammals (Hazarika 2003). However, many roads are planned in future which would change the situation. This is an opportunity to conduct environmental education programmes with the Army to sensitize them about India's Wildlife Protection laws.

In the lower reaches, slash-and-burn (*jhum*) cultivation is a serious problem. Generally, maize and opium are cultivated.

KEY CONTRIBUTOR

Anwaruddin Choudhury

KEY REFERENCES

- Ali, S. and Ripley, S.D. (1987) *Compact Edition of the Handbook of the Birds of India and Pakistan*. Oxford University Press, New Delhi.
- Choudhury, A.U. (2009) One more new species of giant flying squirrel of the genus *Petaurista* Link, 1795 from Arunachal Pradesh in north-east India. *Newsletter & J. Rhino Foundation NE India* 8: 26–34, plates.
- Choudhury, A.U. (2013a) *The Mammals of North East India*. Gibbon Books and The Rhino Foundation for nature in NE India (supported by COA, Taiwan), Guwahati, India. 432 pp.
- Choudhury, A.U. (2013b) Chaglagam-Denning-Walong: Arunachal's wild east. *Mistnet* 14(4): 9–10.
- Haridasan, K., Borang, A., and Singh, P. (1999) Baseline survey of biodiversity in high priority biologically rich areas of Arunachal Pradesh. State Forest Research Institute, Itanagar.
- Hazarika, A.A. (2003) A survey on the biome-restricted avifauna of Chaglagam proposed reserve forest. Report submitted to the Bombay Natural History Society, Mumbai. Pp. 54.
- Sharma, M., Sangha, H.S., and Jain, A. (2014) Godlewski's Bunting *Emberiza godlewskii* in Arunachal Pradesh: A first breeding record for the Indian Subcontinent and review of its status in the region. *Indian BIRDS* 9(2) : 49–51.
- Singh, A.P. (2013) Lord Derby's Parakeet *Psittacula derbiana* and Black-headed Greenfinch *Carduelis ambigua* in Arunachal Pradesh, India. *Indian BIRDS* 8(5): 133.
- Singh, P. (1994) Recent bird records from Arunachal Pradesh, India. *Forktail* 10: 65–104. Published 1995.
- Stattersfield, A.J., Crosby, M.J., Long, A.J., and Wege, D.C. (1998) *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. BirdLife International, Cambridge, UK. Pp. 846.